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# A Peer-Review Mechanism for the Biological and Toxin Weapons Convention

James Revill

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## About the cover

This scanning electron micrograph depicts spores from the *Bacillus anthracis* bacteria.

Cover image courtesy of the Centers for Disease Control and Prevention (2002 CDC/Laura Rose).

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## ABOUT THE AUTHOR

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The views expressed in this paper are entirely those of the author and should not be construed as necessarily reflecting the views of the Harvard Sussex Program.



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## FOREWORD

Few issues are more sensitive than that of verification of the Biological and Toxin Weapons Convention (BTWC). Since the collapse of the protocol discussions in 2001, there has been much debate as to *how*—in the absence of agreement among states parties—to strengthen compliance with the BTWC regime. Two intersessional processes have generated valuable ideas on possible steps to increase confidence and compliance. One concrete measure that has been suggested is that of a peer-review mechanism.

While common in academia, the utility or application of peer review for a disarmament treaty is perhaps not evident at first glance. This study explores the potential application of a peer-review mechanism for the BTWC through an initial survey of five distinct peer-review mechanisms already in use in the international community. With a deeper understanding of the purpose, structure, and mechanisms of peer-review processes, disarmament practitioners will be in a better position to discuss whether peer review might be one step to strengthen the BTWC regime.

The study is based on a definition of peer review for international organizations published by the Legal Directorate of the Organisation for Economic Co-operation and Development (OECD). The OECD characterizes peer review as “the systematic examination and assessment of the performance of a State by other States, with the ultimate goal of helping the reviewed State improve its policy making, adopt best practices, and comply with established standards and principles”.

Given the dual-use nature of biological agents, and the vast amount of biological research conducted by academic institutions and the private sector, such a process could be envisioned also to include non-governmental stakeholders. Such “outside” reviewers might be able to provide insights about, for example, best practice in industry laboratories that might not otherwise be considered.

It should be stressed that such a peer-review process would need to be highly consultative and cooperative. Rather than involving inspections or audits primarily aimed at fault-finding, the process would be designed as a collaborative method of assisting states in improving their compliance and their practices.

Despite the controversy over verification of the BTWC, there is widespread support for strengthening the regime, building confidence, and monitoring compliance. The concept of peer review is one potentially creative solution.

UNIDIR prides itself on making practical contributions to the problems vexing the multilateral disarmament community, and has a long history of work aimed at strengthening the BTWC. Indeed, the suggestion of a peer-review mechanism being of relevance to the BTWC regime first appeared in UNIDIR's journal *Disarmament Forum*, in an article by Richard Lennane, Director of the BTWC Implementation Support Unit. The idea was picked up by a BTWC member state, France, which put the idea forward in a working paper at the Seventh Review Conference in December 2011. Noting the unfamiliarity of the topic to many in our field, UNIDIR has produced this study—which will undoubtedly generate further discussion among states and may lead to further contributions by UNIDIR on peer review in the future.

Theresa Hitchens  
Director  
UNIDIR

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## EXECUTIVE SUMMARY

At the Seventh Review Conference of the Biological and Toxin Weapons Convention (BTWC) in December 2011, a working paper submitted by France sought to initiate debate on the potential of developing a peer-review system for the BTWC to build confidence in the implementation of the Convention. The concept of peer review has precedent in the activities of a number of other international organizations, yet the objectives, format, participants, and structure of peer-review mechanisms vary. Accordingly, this study seeks to take forward this debate by looking at what peer review is, how it works elsewhere, how it could be applied in the context of the BTWC, what would be required to move forward, and what possible advantages or disadvantages a peer-review process would confer to the BTWC in light of the Convention's recent history.

The proposal for some form of peer review has to be examined in the context of the BTWC, which remains devoid of effective mechanisms to assess compliance, despite a decade of looking at a set of measures to strengthen confidence in the Convention through the development of a protocol that collapsed in 2001. Since then the BTWC has undergone two intersessional processes that were unquestionably valuable, yet fell short of the expectations of more ambitious states parties. As states parties begin a third intersessional process following a hard fought, yet ultimately disappointing result from the Seventh Review Conference, the danger is that the high-level attention required to nurture the BTWC may begin to diminish. The success or failure of arms control and disarmament regimes depends on the actions of their states parties, which need to cultivate the regimes and ensure their continued relevance in changing scientific and political contexts. When looking for measures to strengthen the Convention, rather than reigniting old debates over the protocol, it is perhaps time to look at what steps could improve confidence in compliance outside of those politically sensitive areas. One means to achieve this could be to address compliance with the obligations of the BTWC through a systematic review of the performance of a state party by other states parties—in short, by adopting a peer-review process.

Peer review has different meanings in different contexts. In academia, this is widely used to refer to a process of “evaluation of research findings for

competence, significance, and originality by qualified experts”.<sup>1</sup> However this is not the conceptualization of peer review that is being addressed here. Rather, the term peer review in the context of this study assumes a meaning that is particular to the practice of international organizations and has been defined by the Legal Directorate of the Organisation for Economic Co-operation and Development (OECD) as “the systematic examination and assessment of the performance of a State by other States, with the ultimate goal of helping the reviewed State improve its policy making, adopt best practices, and comply with established standards and principles”.<sup>2</sup>

In this study, five peer-review mechanisms that fall within this definition are considered: the African Union’s African Peer Review Mechanism (APRM); the OECD Development Assistance Committee (DAC) peer-review system; the Financial Action Task Force (FATF) peer-review mechanism on money laundering; the International Atomic Energy Agency’s Integrated Regulatory Review Service (IRRS) peer reviews; and the European Nuclear Safety Regulators Group (ENSREG) stress tests. These five mechanisms vary in detail considerably. Nevertheless, there are a number of common themes:

- Peer reviews are evaluations carried out by equals that function with the objective of variously identifying deficiencies, showcasing and fostering best practice, sharing experiences, and improving individual and collective performance. They are not inspections or audits.
- Peer reviews derive influence from the associated peer pressure and scrutiny they generate, something that can be particularly effective when reviews are viewed as credible, contain a follow-on process, and are made publicly available.<sup>3</sup>
- Peer review requires the completion of some form of data collection process in order to generate a baseline of data on which to carry out a review. Some mechanisms do this through a structured questionnaire,

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1 D. Benos et al., “The ups and downs of peer review”, *Advances in Physiology Education*, vol. 31, no. 2, 2007.

2 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 3.

3 K.L. Gardner, “Fighting terrorism the FATF way”, *Global Governance*, vol. 13, no. 3, 2007.

while others require a reviewed state to demonstrate that it has considered various criteria.

- Baseline data are in turn gauged against some form of standard or principle by a team of reviewers; however, most peer-review systems recognize that no “one size fits all”, and take into consideration the national context, thus ensuring flexibility and “scalability” in the review process.
- Peer review can be applied in a modular fashion whereby a state can select areas that warrant particular attention for review.
- Peer review ensures some form of consultation and clarification process takes place in which the reviewers can check what has been submitted, clarify any ambiguities, and examine the situation from different perspectives.
- Peer-review mechanisms often work with a broad range of stakeholders from the national to the local level.
- Finally, peer-review mechanisms often include on-site visits with both staff interviews and observations of practices in order to understand the implementation of certain measures in practice.

As there is a diversity of relevant peer-review mechanisms, this study, in considering how best a peer-review mechanism might be integrated into the BTWC, develops a modular approach in order to demonstrate the benefits that are potentially available to the states parties.

A modular approach would offer states parties a basic “peer-review package” that would most logically focus on implementation of national legislation and regulations. However, depending on the level of ambition and enthusiasm, states parties could select additional modules related to, *inter alia*, export control provision; biosecurity and biosafety provision; outreach, codes, education and engagement; disease outbreak detection and response capacity; international cooperation and assistance; or oversight mechanisms.

Under this model, a review would start with the collection and collation of relevant data, which would be assessed by small teams of reviewers with relevant expertise who were nominated by states parties and selected on a geographically representative basis. Taking the basic legislation-focused package as an example, such a team would be tasked with conducting an assessment of whether all key aspects of legislation are in place and also

whether these have been effectively implemented using agreed criteria (drawn up from past intersessional discussions) for consideration.

If other modules were required and states sought a more ambitious review, additional components could be requested that could provide an increasingly comprehensive assessment of implementation. This process could be augmented through an activity report from others engaged in the life sciences at the local level, such as biosafety officers working in academia and industry, to provide information on what the situation is locally. This could be followed by a series of transparency visits to key facilities selected by the state party being reviewed, conducted by a team of peers nominated by participating states parties. The visits would allow the team to speak with staff and observe certain procedures to see how implementation works in practice and then share best practices and lessons learned—a process that is similar to a number of contemporary industry practices such as registration to ISO 14001 or the process of certification for OHSAS (Occupational Health and Safety Assessment Series) 18001.

After analysis, reviewers and representatives of the reviewed state party could engage in a process of consultation and clarification that would seek to arrive at agreement on a draft report. This would include a factual description of measures in place, an analysis of whether they were fit for purpose, and, if required, recommendations and comments. In the case where serious deficiencies were identified the report could include a time frame for implementation of recommendations and a plan for the provision of the necessary support and capacity-building required to implement the recommendations. This could be achieved through using the database agreed upon at the Seventh Review Conference and in turn could help stimulate the use of the database and open up channels of assistance for all states parties (not just those subject to a peer-review process). The next stage would be to present the findings at a meeting of states parties when the reviewers, states parties, and other interested parties could explore, clarify, and further resolve ambiguities, and share lessons learned. The additional advantage of an open plenary session would be to generate peer pressure to fulfil any recommendations and to provide an additional layer of public scrutiny that may encourage states to undertake recommended actions.

The peer-review approach is one possible step forward that goes considerably beyond and builds upon United Nations Security Council resolution 1540 activities and, assuming adoption of a constructive and ambitious approach via a number of different modules, could provide

greater transparency, a cooperative approach to clarification of a state party's implementation submission, an enhanced understanding of how national security and safety rules and regulations operate in practice, an awareness-raising and best-practice sharing process for academia and industry, and a greater understanding of the extent of international cooperation and best practice in such cooperation. The process of presenting the outcome to a meeting of states parties could lead to assistance in capacity-building and providing the resources for a state party to carry out concrete actions as appropriate to improve the situation—something that could stimulate the use of the database facility and open channels for the delivery of assistance to all states parties, not just those under peer review. Such an approach is attractive as many of the necessary components can readily be developed from what already exists. Moreover, by providing what Lennane calls “A structured and systematic means of providing an increased level of assurance that states parties are complying with the ... obligations of the convention”,<sup>4</sup> peer review would be a step towards strengthening implementation of the Convention and enhancing its effectiveness.

This study sets out a number of prerequisites for any peer-review system, including:

- The nomination of an objective, expert **set of “peers”** to produce a credible review; this is essential if reports and recommendations are to be taken as soundly based.
- The development of a **baseline of information** from which to conduct a review. Clearly confidence-building measures are a useful starting point although additional documentation (such as copies of national laws and regulations) will be required in the reviewer's language. A questionnaire tool could facilitate information gathering in this regard.
- Some **principles, criteria, or standards from which to conduct an objective review**. There is a wealth of material from the intersessional processes and regional standards that could be employed, although the peer-review system will need to take into consideration the context and thus be “scalable” and “adaptable” enough to be applicable to the range of participating states.

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4 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41.

Summary of the modular approach to a  
BTWC peer-review mechanism

<b>Objective</b>	Voluntary evaluation of the implementation of the Convention by a state party
<b>Basic module</b>	Legislative and regulatory environment
<b>Additional modules</b>	<ul style="list-style-type: none"><li>• Implementation and enforcement of legislation</li><li>• Export-control provision</li><li>• Biosecurity and biosafety provision</li><li>• Outreach, codes, education, and engagement</li><li>• Disease outbreak detection and response capacity</li><li>• International cooperation and assistance</li><li>• Oversight mechanisms</li></ul>
<b>Reviewers</b>	<p>The basic module would require a small team of legal experts nominated as representatives of states parties. The team would need to be selected on the basis of language, experience, and the type of legal system being assessed.</p> <p>Depending on whether additional modules were selected, a team comprising the following areas of expertise could be required: customs; law enforcement, biosecurity and biosafety; and public health and BTWC policy. The team would need to be nominated by states parties on the basis of expertise but also language and geographical representation.</p>
<b>Process</b>	<ol style="list-style-type: none"><li>1. The preparatory phase</li><li>2. On-site transparency visit</li><li>3. Analysis phase</li><li>4. The consultation and clarification phase</li><li>5. Plenary discussion and publication of report</li><li>6. Follow-up</li></ol>



- A peer-review process will need clear **incentives for participation**—and such incentives will need to be delivered as agreed. One option could be to link a review process to the delivery of any resources necessary to rectify any gaps identified, something that could perhaps be mutually beneficial in linking up with other activities, such as the database.
- A credible **follow-up process** will need to be designed to ensure that any agreed recommendations are carried out.
- Most importantly, any peer-review process will require **political will** to proceed. A review of statements and working papers submitted to the Seventh Review Conference in 2011 shows that there is already some support for aspects of a peer-review process. Rather than seeking a multilaterally negotiated route to a peer-review mechanism, a smaller group of like-minded states parties that are committed—and willing to be reviewed themselves—could pilot such a peer-review process and report back to the states parties.

This study concludes by identifying a number of advantages and disadvantages of a peer-review process and recommends that one useful preliminary step that states parties could undertake would be communication between counterparts in agencies with experience of peer-review mechanisms in other areas to gain an understanding of whether participation in such existing peer-review processes generates sufficient benefits to offset the costs in time and resources. This study concludes that the advantages would outweigh the disadvantages and a peer-review system that looks at broad implementation of the Convention could be an attractive and effective way of moving the overall confidence in the Convention forward through a systematic review of national compliance of individual states parties with their obligations, thereby enhancing international confidence in the Convention.

Summary of the advantages and disadvantages  
of the modular approach

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Improved transparency</li><li>• Provides a safe space for clarification and consultation</li><li>• Structured mechanism for sharing best practice</li><li>• Provides an applied mechanism to enhance national implementation</li><li>• Provides a flexible and “scalable” assessment mechanism</li><li>• Potential to support outreach and engagement with academia and industry</li><li>• Peer pressure could encourage improvement in implementation</li><li>• It would not require new structures</li><li>• It is not verification</li></ul>	<ul style="list-style-type: none"><li>• Any mechanisms will require resources and political will</li><li>• States may be reluctant to expose themselves to scrutiny</li><li>• The process may serve as a distraction from the central question of compliance with the prohibitions embodied in the Convention</li><li>• It is not verification</li></ul>

## INTRODUCTION

At the 2011 Seventh Review Conference of the Biological and Toxin Weapons Convention (BTWC), a working paper submitted by France proposed the idea of developing a peer-review system for the BTWC. The working paper, which was submitted to raise “some points for further discussion”, outlined a mechanism intended “to provide for an assessment of the implementation of the Convention, thereby bolstering confidence among States parties”.<sup>1</sup> In accordance with the French vision, a peer-review mechanism:

would provide a framework for mutual assessments of the implementation of standards based on the common understandings reached during the intersessional process. These assessments could be based on a detailed, predetermined methodology and could include an analysis of States’ written statements, as well as country visits. The assessment team could comprise State-appointed national experts and possibly representatives of the Implementation Support Unit. ... The mechanism would function on a voluntary basis, with all assessments being initiated at the request of the State concerned.<sup>2</sup>

The French proposal followed an earlier suggestion by the Head of the BTWC’s Implementation Support Unit, Richard Lennane, in the journal *Disarmament Forum*:

Biodefence is the area where the line between permitted and prohibited activities is finest and where there is most potential for legal activities to be converted to illegal ones literally overnight. ... A good case can therefore be made for a higher level of scrutiny, and higher standards of transparency and communication, including some level of on-site access by external monitors.

...

The question is, of course, how to do it in the absence of a legal framework and an independent monitoring organization. The most immediately tractable approach would probably be an informal (essentially voluntary) arrangement of peer review among States Parties

1 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011.

2 Ibid., paras. 5–6.

with declared biodefence programmes. These governments could take turns to visit each others' biodefence facilities, in accordance with a mutually agreed schedule and procedures, and compare what they see and hear with what has been declared.<sup>3</sup>

The concept of peer review has thus gathered some interest in the context of the BTWC; moreover it is a concept that has precedent in a number of different international organizations albeit with very different objectives. For example, the African Union operates the voluntary African Peer Review Mechanism "to promote and re-enforce high standards of governance"<sup>4</sup> whereas the International Atomic Energy Agency (IAEA) conducts peer assessments of nuclear regulatory frameworks.

Yet it remains unclear what peer review is in the context of international organizations, how a peer-review mechanism could function in the BTWC, or indeed what the advantages and disadvantages of such a system would be in the context of the BTWC. Accordingly, this study seeks to look at what peer review is, how it works, and how it could be applied in the context of the BTWC and whether this could be a useful step forward in the evolution of the Convention.

After providing a short overview of the BTWC and its development, the study proceeds with an analysis of how the concept of peer review has been applied in other fields, specifically the fields of governance, financial systems, nuclear regulation, and development aid. The purpose of this section is to illustrate the diversity of approaches to peer review in the international system and the differences between the "peers", structures, and mandates of different systems in order to inform conceptualization of a peer-review mechanism in the BTWC context.

The second section maps the concept of a peer-review mechanism onto the BTWC, taking into consideration the technical and political feasibility in the multilateral context of the Convention. Because of the diverse nature of peer-review mechanisms, this section develops a modular approach to a BTWC peer-review mechanism, which would contain a core package of measures with a series of optional extras that could be employed in accordance with the varying degrees of ambition of states parties. The penultimate section addresses some of the prerequisites for any effective

3 R. Lennane, "Verification for the BTWC: if not the protocol, then what?", *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 46.

4 See "African Peer Review Mechanism (APRM)", <[www.nepad.org/economicandcorporategovernance/african-peer-review-mechanism/about](http://www.nepad.org/economicandcorporategovernance/african-peer-review-mechanism/about)>.

peer-review process drawing on the experience of peer review in other areas. The final section concludes with an evaluation of the costs and benefits of a BTWC peer-review system in light of the Convention's recent history and contemporary trajectory.

## THE BTWC

Proposals for some form of peer-review mechanism for the BTWC have to be understood in the context of a disarmament agreement that lacks any mechanism to effectively determine compliance, despite a decade of discussion on strengthening the Convention through negotiation of a protocol over the course of the 1990s. This process began with the work of the "Ad Hoc Group of Governmental Experts to identify and examine potential verification measures from a scientific and technical standpoint" (known as VEREX), which was the product of compromise at the Third Review Conference in 1991, and continued through the politically orientated Ad Hoc Group (AHG) process that was initiated following the convening of a Special Conference in 1994. Although the work of the AHG appeared to be making progress and picked up the pace following the Fourth Review Conference in 1996, by 2000 progress appeared to decelerate with political stances concretizing in key issue areas. This process ultimately collapsed in 2001, a step that not only moved states parties back to square one, but also ushered states parties into a climate of frustration and uncertainty at a time in which remarkable changes in the capacities and geography of life science research were occurring.<sup>5</sup>

In the decade since the collapse of negotiations on a verification protocol, the BTWC has evolved through a series of intersessional meetings focused on specific aspects of the implementation of the Convention. The first intersessional meeting was constructed as a means to salvage some form of follow-up process to the failed AHG that would keep states around the table and talking about BTWC-related issues. The mandate contained neither power to negotiate, nor any scope to make binding decisions;<sup>6</sup> instead it provided for a series of expert and state party meetings to discuss and promote common understanding and effective action on:

5 P. Slevin, "U.S. drops bid to strengthen germ warfare accord", *Washington Post*, 19 September 2002.

6 J. Littlewood, *The Biological Weapons Convention: A Failed Revolution*, 2005, p. 224.

- i. the adoption of necessary national measures to implement the prohibitions set forth in the Convention, including the enactment of penal legislation;
- ii. national mechanisms to establish and maintain the security and oversight of pathogenic microorganisms and toxins;
- iii. enhancing international capabilities for responding to, investigating and mitigating the effects of cases of alleged use of biological or toxin weapons or suspicious outbreaks of disease;
- iv. strengthening and broadening national and international institutional efforts and existing mechanisms for the surveillance, detection, diagnosis and combating of infectious diseases affecting humans, animals, and plants;
- v. the content, promulgation, and adoption of codes of conduct for scientists.<sup>7</sup>

Under the circumstances, the first intersessional process was an unexpected success<sup>8</sup> and there was sufficient support at the Sixth Review Conference to continue this process through a consensus agreement to undertake a second intersessional process with similar mandate to *discuss, and promote common understanding and effective action on*:

- i. Ways and means to enhance national implementation, including enforcement of national legislation, strengthening of national institutions and coordination among national law enforcement institutions.
- ii. Regional and sub-regional cooperation on implementation of the Convention.
- iii. National, regional and international measures to improve biosafety and biosecurity, including laboratory safety and security of pathogens and toxins.
- iv. Oversight, education, awareness raising, and adoption and/or development of codes of conduct with the aim of preventing misuse

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7 Fifth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document*, document BWC/CONF.V/17, 2002, para. 18(a).

8 Summary report of the Geneva Forum conference Meeting the Challenges of Reviewing the Biological and Toxin Weapons Convention, 9–10 March 2006, Clion, Switzerland.

in the context of advances in bio-science and bio-technology research with the potential of use for purposes prohibited by the Convention.

- v. With a view to enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes, promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases: (1) for States Parties in need of assistance, identifying requirements and requests for capacity enhancement; and (2) from States Parties in a position to do so, and international organizations, opportunities for providing assistance related to these fields.
- vi. Provision of assistance and coordination with relevant organizations upon request by any State Party in the case of alleged use of biological or toxin weapons, including improving national capabilities for disease surveillance, detection and diagnosis and public health systems.<sup>9</sup>

These sets of meetings have unquestionably had a number of benefits. First, the process has enabled states parties to discuss what were comparatively new and novel concepts, such as “biosecurity”, in an open manner devoid of the strictures of a negotiating climate. Second, the intersessional processes have enabled the BTWC to pioneer a much more flexible, decentralized, “networked” approach to arms control and disarmament.<sup>10</sup> In circumstances where dealing with the challenge of biological weapons requires a variety of activities at a range of different levels from the individual to the international, such a network-based model is important. Third, from a practical perspective, meetings such as the 2005 meetings on codes of conduct for scientists require input from scientific stakeholders and outreach to those that codes would seek to influence. The intersessional processes have been good in this regard and generated unprecedented levels of civil society participation in meetings over the course of the last decade. Finally, two intersessional periods have to some extent allowed the wounds from 2001 to heal.

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9 Sixth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document*, document BWC/CONF.VI/6, 2006, part III, para. 7(a).

10 P. Millett, “Why the 2011 BTWC RevCon might not be business as usual”, *Disarmament Forum*, no. 1, UNIDIR, 2011.

Yet for all its success, the intersessional period scores less highly in terms of generating effective action and concrete results, leading many to conclude that the process that emerged from 2002 had run its course and it was time for a change in intersessional activity after the Seventh Review Conference.<sup>11</sup> For example, the United States remarked that “to address increasingly challenging issues and develop more concrete outcomes and products, the intersessional process needs to evolve”;<sup>12</sup> whereas a collective of states, including Australia, Canada, and Japan, suggested the intersessional process could “be improved and would be more adaptable to our changing world with Working Groups”.<sup>13</sup> Yet other states referred variously to improving or enhancing the Convention. For example, the Non-Aligned Movement (NAM) spoke of the importance of “work towards strengthening and improving the effectiveness and implementation of this Convention”;<sup>14</sup> the Collective Security Treaty Organization (CSTO) referred to the need to “increase the effectiveness of the Convention’s regime and agree on a set of concrete measures to implement it”.<sup>15</sup>

However, despite high expectations for the Seventh Review Conference to deliver a more substantive agenda through the creation of BTWC working groups and an expanded Implementation Support Unit (ISU), the meeting was a hard-fought three weeks that ultimately failed to meet the expectations of those states parties seeking a more ambitious outcome. Instead it resulted in something much more modest,<sup>16</sup> principally through agreement to three standing agenda items addressing national implementation, science and technology, and peaceful cooperation.

11 Certainly this is apparent in several working papers submitted in advance of the Seventh Review Conference on the BTWC website.

12 United States of America, *The Next Intersessional Process*, 2011, para. 3, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_WP\\_US\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_WP_US_E.pdf)>.

13 Canada (joint statement of Japan, Australia, Canada, the Republic of Korea, Switzerland, Norway, and New Zealand), 5 December 2011, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_Statement\\_JACKSNNZ\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_Statement_JACKSNNZ_E.pdf)>.

14 Cuba (on behalf of the Group of the Non-Aligned Movement and Other States Parties to the BWC), 5 December 2011, para. 5, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_Statement\\_Cuba-NAM\\_S.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_Statement_Cuba-NAM_S.pdf)>

15 Belarus (on behalf of the member states of the CSTO), 5 December 2011, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_Statement\\_Belarus-CSTO\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_Statement_Belarus-CSTO_E.pdf)>.

16 J. Revill, *Workshop Report*, Deconstructing the Final Document of the BWC Seventh Review Conference, Harvard Sussex Program, University of Sussex, 8 March 2012.



The success or failure of arms control and disarmament agreements rests on the actions of their states parties. In acceding to a treaty, states parties commit to undertaking a series of measures to implement such agreements, a process that by its very nature places a number of constraints on a state's freedom to act but also demands "tending", not just in its construction, but over time and in response to the evolving geostrategic context.<sup>17</sup> This requires sustained commitment; as Brad Roberts has stated:

Even among the best intentioned of parties to a treaty, there is always the difficult task of implementing treaty commitments and managing the inevitable uncertainties that arise and the complications caused by the passage of time. Tending to such implementation issues requires a steadiness of purpose not always found in governments and an ability to capture the attention of senior political figures even when they see few or no benefits to be reaped.<sup>18</sup>

To date, states parties appear to have managed to maintain interest in tending the BTWC, suggesting that, as McLeish has stated, each "continues to believe that the benefits they enjoy as being party to this treaty outweigh any negative obligations and costs".<sup>19</sup> However, in light of the failure to conclude a more substantive outcome over the last two decades, there is a real danger that high-level attention will drift away from the Convention and states will be disinclined to expend energy on activities that are merely "tinkering at the edges".<sup>20</sup> To prevent such a drift, one frequently suggested proposal is a return to the heavily bracketed rolling text of the AHG<sup>21</sup> or the Chairman's Composite Text.<sup>22</sup> While this remains one option (and it

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17 See C. Flowerree, "On tending arms-control agreements", *Washington Quarterly*, vol. 13, no. 1, 1990.

18 B. Roberts, *Weapons Proliferation and World Order: After the Cold War*, 1996, p. 319.

19 C. McLeish, "Status quo or evolution: what next for the intersessional process of the Biological and Toxin Weapons Convention?", *Bulletin of the Atomic Scientists*, vol. 67, no. 3, 2011.

20 J. Perry-Robinson, *Near-Term Development of the Governance Regime for Biological and Chemical Weapons*, Science and Technology Policy Research, University of Sussex, 4 November 2006, p. 16.

21 See, for example, AHG, *Procedural Report of the Ad Hoc Group of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction*, document BWC/AD HOC GROUP/55-1, 1 March 2001.

22 AHG, *Protocol to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons*

would certainly revitalize interest), it remains both a difficult and divisive course of action. Even should it be possible to resolve political difference and generate sufficient political will to proceed, much of the rolling text of the AHG, which has lain in stasis for the last decade (or three diplomatic rotations), would be difficult to pick up and run with as a whole because of the mass of political trade-offs already written into the document, the lack of institutional memory, and the profound changes in both the science and politics of the BTWC that have occurred since the early 1990s.

In light of these difficulties, a more constructive approach could be to disaggregate verification and look at what steps could be achieved to improve confidence in compliance outside of those politically sensitive areas. To do this, it is perhaps worth looking first at what a state needs to do to be in compliance with the Convention. Lennane provides a useful starting point and has divided compliance into two categories:

- “compliance with the prohibitions of the convention”;<sup>23</sup> that is, never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain biological weapons or means of delivery; and
- “compliance with the positive obligations of the convention”;<sup>24</sup> that is, to take active steps to prevent the transfer of biological weapons; to take any necessary national measures to prohibit and prevent the development, production, stockpiling, acquisition, or retention of biological weapons; to undertake to consult one another and to cooperate in solving any problems; to provide or support assistance and to promote, or at least avoid hindering, peaceful cooperation in the life sciences.

As Lennane goes on to note, dealing with these issues requires two different approaches: the former requires some form of punishment, the latter requires incentives, assistance, and support.<sup>25</sup> It also follows that the information necessary to be confident in the compliance of another state is different between these two aspects of compliance. The former essentially requires proving a negative and demonstrating—to varying degrees of scrutiny required to satisfy different states—the absence

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*and on Their Destruction*, document BWC/AD HOC GROUP/CRP.8, 3 April 2001.

23 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41.

24 Ibid.

25 Ibid.

of efforts to develop, produce, stockpile, acquire, or retain biological weapons. The latter requires a different dataset in order to be confident in a state's compliance with the positive obligations of the Convention: it requires information on what measures have been undertaken and whether they are effective in "prohibit[ing] and prevent[ing] the development, production, stockpiling, acquisition, or retention of the agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention" (BTWC, art. IV), or promoting cooperation in the "development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease" (BTWC, art. X).

In seeking to develop new means to improve confidence in compliance and strengthen the Convention in the absence of a significant organizational capacity (or a legally binding verification regime) and in a manner that avoids opening the old wounds associated with the verification protocol, one pragmatic option could be to build on the precedent set elsewhere in the international system and develop a mechanism to conduct a "systematic examination and assessment of the performance of a State by other States, with the ultimate goal of helping the reviewed State improve its policy making, adopt best practices, and comply with established standards and principles".<sup>26</sup> This could enable an "increased level of assurance that States Parties are complying with the ... obligations of the convention"<sup>27</sup> and could take advantage of the flexible, network-based model that has emerged over the course of two intersessional processes. Moreover, rather than being dependent upon the successful agreement of a multilaterally negotiated, legally binding mechanism, peer review could be undertaken—at least in the first instance—through some form of collective of like-minded states; after all, compliance is a national undertaking and "begins at home". While not a perfect solution, as the following sections indicate it is one approach that under the circumstances could enable the BTWC to be tended and through the provision of concrete benefits provide the steadiness of purpose required to sustain the health of the Convention and recapture the attention of senior political figures.

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26 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 3.

27 R. Lennane, "Verification for the BTWC: if not the protocol, then what?", *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41

## SURVEY OF PEER-REVIEW MECHANISMS

The concept of “peer review” is complex and assumes different meanings in different contexts. In academia the notion of peer review has its origins in eighteenth century medical science but is now widely used to refer to a process of “evaluation of research findings for competence, significance, and originality by qualified experts”.<sup>28</sup> This can be done through a number of different methods (such as “blind” or “double blind” peer review) and is done to identify mistakes and provide feedback in order to improve (or reject) a manuscript prior to publication, or alternatively to assess project proposals for academic projects for originality, feasibility, and worth. While the process is far from perfect, nonetheless it has become embedded in academia and is perhaps the academic’s “least worst” quality control.<sup>29</sup>

While there is perhaps much to be learned from looking at peer review in academia, this is not the conceptualization of peer review that is being addressed here. Rather the term peer review in the context of this study assumes a meaning particular to the practice of international organizations and has been defined—as stated above—as “the systematic examination and assessment of the performance of a State by other States, with the ultimate goal of helping the reviewed State improve its policy making, adopt best-practices, and comply with established standards and principles”.<sup>30</sup> The process is frequently employed in international, regional, and like-minded organizations in a broad array of sectors ranging from good governance under the African Union’s African Peer Review Mechanism, to Environmental Performance Reviews under the Organisation for Economic Co-operation and Development (OECD),<sup>31</sup> and relies not on the threat of sanctions or legal action to ensure compliance but on “peer pressure”, exerted through, *inter alia*, “formal recommendations and informal dialogue ... public scrutiny, comparisons, and ... the impact of all

28 D. Benos et al., “The ups and downs of peer review”, *Advances in Physiology Education*, vol. 31, no. 2, 2007.

29 See D. Shatz, *Peer Review: A Critical Inquiry*, 2004.

30 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 3.

31 See “The OECD Environmental Performance Reviews Programme: why?”, <[www.oecd.org/site/peerreview/environmentalperformancereviews.htm](http://www.oecd.org/site/peerreview/environmentalperformancereviews.htm)>.

the above on domestic public opinion, national administrations and policy makers".<sup>32</sup>

In order to illustrate how this process works and the means whereby peer review functions in the context of international organizations, the following section presents five different examples: the African Peer Review Mechanism, the OECD Development Assistance Committee peer-review system, the Financial Action Task Force on Money Laundering peer-review mechanism, the IAEA's Integrated Regulatory Review Service peer reviews, and the European Nuclear Safety Regulators Group "stress tests".

### AFRICAN PEER REVIEW MECHANISM

The African Peer Review Mechanism (APRM) is a voluntary programme employed by the African Union in order "to promote and re-enforce high standards of governance".<sup>33</sup> More specifically:

The primary purpose of the APRM is to foster the adoption of policies, standards and practices that lead to political stability, high economic growth, sustainable development and accelerated sub-regional and continental economic integration through sharing of experiences and reinforcement of successful and best practices, including identifying deficiencies and assessing the needs for capacity building.<sup>34</sup>

The process arose out of what has been described as "sluggish democratic transitions in Africa as well as the stagnation of African development in general",<sup>35</sup> and derives its original mandate from the documents that emerged from the Sixth Summit of the Heads of State and Government Implementation Committee of the New Partnership for Africa's Development (NEPAD) in 2003, but specifically the memorandum of understanding on the APRM, which serves as the "accession document for the APRM".<sup>36</sup> The APRM review process concentrates on four key

32 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 6.

33 See "African Peer Review Mechanism (APRM)", <[www.nepad.org/economicandcorporategovernance/african-peer-review-mechanism/about](http://www.nepad.org/economicandcorporategovernance/african-peer-review-mechanism/about)>.

34 See "About APRM", <<http://aprm-au.org/about-aprm>>.

35 A.B. Chikwanha, *The APRM: A Case Study in Democratic Institution Building?*, ISS Paper 151, Institute for Security Studies, 2007.

36 African Union, *Guidelines for Countries to Prepare for and to Participate in the African Peer Review Mechanism (APRM)*, 2003, para. 1(i).

indicators of good governance: democracy and good political governance, economic governance and management, corporate governance, and socioeconomic development. As of 2011, 30 states had voluntarily participated in the APRM,<sup>37</sup> which requires an annual contribution from member states of US\$ 100,000.<sup>38</sup> The mechanism has provision for four specific types of review:

- a “base” review, which is the first review carried out within 18 months after a state becomes a member of the APRM;
- a periodic review that takes place every two to four years;
- a member state may, for its own reasons, request a review outside the framework of the periodically mandated reviews; and
- early signs of impending political and economic crisis in a member state could also be sufficient cause for commissioning a review.<sup>39</sup>

A review (or APR) is conducted by a combination of three bodies: the “Panel of Eminent Persons” comprised of nominees of participating states and selected on the basis of “high moral stature and demonstrated commitment to the ideals of Pan-Africanism”<sup>40</sup> in a manner that seeks to “reflect regional, gender and cultural balance”,<sup>41</sup> a Secretariat that provides technical and administrative support to the APR Panel,<sup>42</sup> and an APR Country Review Team.

Using this structure, a “base” review process is conducted over five stages and normally takes one year to complete, including a six-month

37 These include Algeria, Angola, Benin, Burkina Faso, Cameroon, the Congo, Djibouti, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Liberia, Malawi, Mali, Mauritania, Mauritius, Mozambique, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, the Sudan, Togo, Uganda, the United Republic of Tanzania, and Zambia. See *Communiqué Issued at the End of the Sixteenth Summit of the Committee of Heads of State and Government Participating in the African Peer Review Mechanism*, 28 January 2012, <<http://maep-ua.org/sites/default/files/16TH%20APR%20FORUM%20-%20FINAL%20COMMUNIQUE.pdf>>.

38 See “Frequently asked questions”, <<http://aprm-au.org/faq>>.

39 See “About APRM”, <<http://aprm-au.org/about-aprm>>.

40 See “APR Panel of Eminent Persons”, <<http://aprm-au.org/apr-panel-eminent-persons>>.

41 See A. Shifa, *African Peer Review Mechanism: Progress Update*, APRM Secretariat, 19 May 2011.

42 Ibid.

pause between recommendations being made (phase four) and the final report being published (phase five), in which the state under review is expected to rectify any shortcomings identified in the peer-review process. A description of the five stages is outlined below, but to summarize, the review consists of background preparatory research, a country visit lasting for roughly three weeks, the preparation of recommendations, an internal presentation and discussion of findings, and the public release of a report.

### THE FIVE STAGES OF AN APRM REVIEW<sup>43</sup>

#### Stage 1—Background research and draft plan of action

In the first stage, the APRM Secretariat along with the focal point of the state under review prepare an up-to-date assessment of the “political, economic and corporate governance and development environment in the country to be reviewed”.<sup>44</sup> For base reviews this is normally done through the use of the APRM Country Self-Assessment Questionnaire.<sup>45</sup> The process serves to highlight key issues and provide context and is shared among partners. In this first phase the APR team is also selected and the work plan is agreed, while the state under review is expected to articulate a preliminary plan of action for improving governance “based on existing policies”.<sup>46</sup>

#### Stage 2—Country visit

In the second phase the APR team visits the country and engages with a wide range of stakeholders. For example, in the case of Kenya’s APRM visit the team consulted with the “National Governing Council, civil society organisations, media, political parties, academia and faith

43 J. Cilliers, *Peace and Security through Good Governance—A Guide to the NEPAD African Peer Review Mechanism*, Occasional Paper 70, Institute for Security Studies, 2003. See also NEPAD Secretariat, *African Peer Review Mechanism Organisation and Processes*, 2003.

44 NEPAD Secretariat, *African Peer Review Mechanism Organisation and Processes*, 2003, para. 7.4.

45 See APRM Secretariat, *Revised Country Self-Assessment Questionnaire for the African Peer Review Mechanism*, 2012, <<http://aprm-au.org/sites/default/files/Revised%20APRM%20Eng%20Questionnaire%206%20Aug%2012.pdf>>.

46 L.A. Jinadu, *The African Peer Review Process in Nigeria*, Open Society Initiative for West Africa, 2008, p. 5.

based and human rights organisations. Others included trade unions, women and youth groups, minorities, disadvantaged groups, persons with disabilities, persons living with HIV/AIDS, and associations of journalists”.<sup>47</sup> Consultations are employed to clarify issues and “build national consensus on the way forward”.<sup>48</sup>

### **Stage 3—Preparation of APR team recommendations**

In the third stage the country review report is prepared by the APR team on the basis of consultations and background information taking into consideration the preliminary plan of action. This report is then shared with the host government to ensure accuracy and allow the host state an opportunity to react and propose responses to outstanding issues. Government responses are appended to the APR team report.<sup>49</sup> The self-assessment report and the team report are then used to agree upon a plan of action “outlining policies and practices for implementation”.<sup>50</sup>

### **Stage 4—Presentation to the African Peer Review Forum**

In the fourth stage the APRM Secretariat submits the review team’s report to the African Peer Review Forum. A notably additional component to this stage is identified in paragraph 24 of the “base” document for the APRM and is worth quoting at length:

If the Government of the country in question shows a demonstrable will to rectify the identified shortcomings, then it will be incumbent upon participating Governments to provide what assistance they can, as well as to urge donor governments and agencies also to come to the assistance of the country reviewed. However, if the necessary political will is not forthcoming from the Government, the participating states should first do everything practicable to engage it in constructive dialogue, offering in the process technical and other appropriate assistance. If dialogue proves unavailing, the participating Heads of State and Government may wish to put the Government on notice of their collective intention to proceed with appropriate measures by a given date. The interval should concentrate the mind of the

47 APRM Secretariat, *Country Review Report of the Republic of Kenya*, 2006, p. 9.

48 L.A. Jinadu, *The African Peer Review Process in Nigeria*, Open Society Initiative for West Africa, 2008, p. 5.

49 See “Stages of APRM”, <<http://new.uneca.org/aprm/StagesAPRM.aspx>>.

50 L.A. Jinadu, *The African Peer Review Process in Nigeria*, Open Society Initiative for West Africa, 2008, p. 5.



Government and provide a further opportunity for addressing the identified shortcomings under a process of constructive dialogue. All considered, such measures should always be utilized as a last resort.<sup>51</sup>

It remains unclear exactly what punishment was envisaged in the term “appropriate measures”.

### **Stage 5—Public release and promulgation**

In the last stage the findings are formally published and circulated to relevant organizations.

For the purpose of this study, three aspects of the APRM are of particular note. First, the APRM has developed a Country Self-Assessment Questionnaire designed:

Firstly, to provide participating countries with a format that can serve as a checklist to determine whether the various stakeholders participating in the process have responded to their concerns. Secondly, as a convenient summary to provide an overview of the results of their own self-assessment processes.<sup>52</sup>

After some difficulties, a revised APRM questionnaire was issued in 2012, which provides an introduction to the APRM concept and terminology as well as guidelines for the completion of the document.

Second, the APRM exercise is not limited to government participation; rather, it “includes the legislative and judicial branches of government as well as an assessment of the Private Sector, Civil Society and the Media in the areas of governance and socio-economic development”.<sup>53</sup>

Remarkably, these voices are recorded in Country Review Reports. The report on Kenya, for example, states:

Stakeholders complained about the continued disregard for their cultural identities as evidenced in a series of derogatory and insensitive

51 African Union, *The African Peer Review Mechanism (APRM)*, document AHG/235 (XXXVIII), 8 July 2002, annex II, para. 24.

52 See APRM Secretariat, *Revised Country Self-Assessment Questionnaire for the African Peer Review Mechanism*, 2012, <<http://aprm-au.org/sites/default/files/Revised%20APRM%20Eng%20Questionnaire%206%20Aug%2012.pdf>>.

53 APRM Secretariat, *2011 APRM Annual Report*, 2012, p. 2.

political remarks about them and their region particularly at the higher political levels.

...

Incidences were cited during the consultations with stakeholders in which prominent government officials either disobeyed courts orders or expressed an intention to disobey them. Non-enforcement of sanctions levied against such disregard is fostering an emerging culture of impunity.<sup>54</sup>

Third, it is notable that the APRM appears to offer both a carrot and a stick. Although the punitive response to “unavailing dialogue” remains unclear, the carrot is clearly identified in the form of provision of assistance and a commitment to urging donor governments and agencies to come to the assistance of the country reviewed. Unfortunately, even though there are a number of reports of “positive experience”<sup>55</sup> related to the APRM, the delivery of these incentives for participation does not appear to have been forthcoming in all cases. One participant in an APRM lessons-learned meeting remarked:

The truth is that a large number of countries got into Nepad and APRM because there was a promise of support and resources, and the APRM stood as a very good process to improve governance, and at the end of that process, there was a promise of resources. ... But we should be clear that there is nothing at the end of the tunnel forthcoming in terms of resources under the Nepad programme as such. What the implication might be, that those countries that have not yet gone into the APRM, now realising that those that have gone into it and might not be benefiting, might, in fact, decide for their own sake, but prompted by this reality, to shy away from the APRM.<sup>56</sup>

The latter point is particularly poignant suggesting, as it does, that the failure to meet expectations and deliver the anticipated incentives that reviewed states envisage when signing up could dissuade others from participation in the future.

54 APRM Secretariat, *Country Review Report of the Republic of Kenya*, 2006, pp. 65, 72.

55 A.B. Chikwanha, *The APRM: A Case Study in Democratic Institution Building?*, ISS Paper 151, Institute for Security Studies, October 2007.

56 South African Institute of International Affairs, *APRM Lessons Learned: Report on the SAIIA Conference For Civil Society, Practitioners and Researchers*, 2006, p. 30, <<http://saiia.org.za/images/upload/APRM%20Lessons%20Learnt.pdf>>.

## FINANCIAL ACTION TASK FORCE PEER-REVIEW MECHANISM

The Financial Action Task Force (FATF) is an independent intergovernmental organization established in 1989 to “set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system”.<sup>57</sup> The FATF currently boasts a membership of 34 member jurisdictions and two regional organizations (the European Union and the Gulf Cooperation Council)<sup>58</sup> and membership is based on the size of the economy with members providing a “written commitment at the political level”.<sup>59</sup> FATF funding comes from the OECD member states and the annual budget for 2012 was US\$ 3,371,848.<sup>60</sup>

As part of the recently agreed 2012–2020 mandate the FATF is tasked with *inter alia*:

Assessing and monitoring its Members, through “peer reviews” (“mutual evaluations”) and follow-up processes, to determine the degree of technical compliance, implementation and effectiveness of systems to combat money laundering and the financing of terrorism and proliferation; refining the standard assessment methodology and common procedures for conducting mutual evaluations and evaluation follow-up ...<sup>61</sup>

The FATF peer-review process, known as “mutual evaluation”, is designed to assess progress in the implementation of the recommendations of the FATF, specifically the 2003 “FATF 40 Recommendations” and the 2001 “FATF IX Special Recommendations” on terrorist financing (together known as the “FATF 40 + 9 Recommendations”). The process thus evaluates:

whether the necessary laws, regulations or other measures required under the essential criteria are in force and effect, that there has been a full and proper implementation of all the necessary measures, and

57 See “Who we are”, <[www.fatf-gafi.org/pages/aboutus](http://www.fatf-gafi.org/pages/aboutus)>.

58 See “FATF members and observers”, <[www.fatf-gafi.org/pages/aboutus/membersandobservers](http://www.fatf-gafi.org/pages/aboutus/membersandobservers)>.

59 See “FATF membership policy”, <[www.fatf-gafi.org/pages/aboutus/membersandobservers/fatfmembershippolicy.html](http://www.fatf-gafi.org/pages/aboutus/membersandobservers/fatfmembershippolicy.html)>.

60 FATF, *Annual Report 2011–2012*, 2012, p. 38.

61 FATF, *Financial Action Task Force Mandate (2012–2020)*, 2012, p. 2.

that the [anti-money laundering (AML) and combating the financing of terrorism (CFT)] system as implemented is effective.<sup>62</sup>

The FATF mutual evaluations are set to embark upon the fourth round of assessment in 2013 and guidance has been revised to accommodate changes in threat perceptions and to improve transparency. The mutual evaluation process is estimated at taking six or seven months and has a number of phases. An outline based on the 2009 FATF *Process and Procedures* report is presented below.

## OVERVIEW OF THE FATF MUTUAL EVALUATION PROCEDURE 2009<sup>63</sup>

### Before the on-site visit

In preparation for the on-site visit a number of organizational factors need to be considered including a scheduling of meetings and visits and the collection and collation of materials, including relevant laws and the questionnaire. States to be assessed are obliged to download and complete the questionnaire two months prior to the on-site visit. The reply forms are an important part of the evaluation:

The questionnaire format is intended to facilitate the preparation of a response, which can provide key information for the on-site visit and form the basis for the initial outline draft of the MER [Mutual Evaluation Report] to be prepared by the Secretariat. It does not ask detailed questions, but countries must set out fully how they meet each Methodology criterion.<sup>64</sup>

In the meantime, the Secretariat prepares a draft agenda and, with the FATF President, selects the assessor team, which is normally comprised of one legal expert, two financial experts, and one law enforcement expert. Individuals are selected from a list of assessors on the basis of their neutrality, background, language, experience with different legal systems, and jurisdictions. The Secretariat also converts the assessed state's questionnaire reply into a draft outline of the report that includes

62 FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 3.

63 See *ibid.*, annex 1.

64 *Ibid.*, p. 5.

issues that may need to be addressed. This is then provided to the assessor team.

### **On-site visit**

The on-site visit is described as the “best opportunity to clarify issues relating to the country’s AML/CFT system, and assessors need to be fully prepared to not only examine the laws, regulations, guidelines and institutional measures, but to also review the effectiveness of the system”.<sup>65</sup> The on-site session requires a minimum of seven to eight days, with the overwhelming majority of the time spent with “representatives of the country”, including private sector representatives, which is described as an important part of the visit.<sup>66</sup>

### **After the on-site visit**

Assessors begin the process of finalizing a draft report for discussion at a plenary meeting. This process requires a number of iterations of the draft report as comments and drafts are passed among the relevant actors (specifically the Secretariat, the assessor team, and the state point of contact) and is subject to a strict schedule that is timed to ensure that the final draft is ready for the Expert Review Group (ERG) Process prior to the FATF Plenary. Failure on the part of the state to comply with the agreed deadlines can result in the deferment of the evaluation and/or a letter to the “relevant Minister in the country”.<sup>67</sup>

### **Expert Review Group Process**

The ERG meeting immediately precedes the FATF Plenary, and serves to “identify and highlight the main/key issues arising in each MER, as well as inconsistencies with other MERs with a view to enhance discussion and resolution of those issues at the Plenary in an equitable manner”.<sup>68</sup> This ERG Process serves to add an extra layer of scrutiny of reports and brings together “experienced experts from different delegations, taking into account regional balance, and from different expertise (legal, financial, law enforcement)” who conduct a review in the presence of assessed state representatives and the assessment team.<sup>69</sup> The discussion of the

65 Ibid., p. 7.

66 Ibid.

67 Ibid., pp. 8–9.

68 Ibid., p. 9.

69 Ibid., p. 10.

ERG is recorded and submitted to the Plenary<sup>70</sup> along with a draft report that the assessors and assessed seek to agree upon (although this is not always possible).

### **Plenary meeting**

At the plenary session the assessor team presents its findings before the assessed state takes the floor to make an opening statement. The plenary then discusses the report, focusing initially on issues raised at the ERG meeting. The plenary then seeks to agree language for the final report and any follow-up measures required before its adoption (or in some cases defer adoption and agree to discuss further).

### **Publication and other procedures following the plenary**

After the plenary's adoption of the report, other minor details are ironed out through a further iterative process of checking before the report is sent for publication. The procedure is that "All mutual evaluation reports and executive summaries are to be published, and this will be done at the time of or soon after the Plenary, thus giving timely publicity to an important part of the FATF's work".<sup>71</sup>

### **Follow-up process**

The FATF system relies on what Gardner describes as "graduated peer pressure on noncomplying members"<sup>72</sup> and there are three types of follow-up processes under the FATF system. Under the first, states that have only minor requirements agree to update the FATF with a report on developments no later than two years after the plenary meeting. Under the second, the "Regular Follow-up" process, which occurs when there are "significant deficiencies in the country's AML/CFT system", a state is required to implement a series of measures agreed in the plenary and report back in no less than two years or in accordance with a "more expedited timetable" in certain circumstances.<sup>73</sup> Finally in cases where an "Enhanced Follow-up" is deemed necessary, a number of graduated steps are applied ranging from a letter or a high-level mission to highlight

70 Ibid., p. 9.

71 Ibid., p. 11.

72 K.L. Gardner, "Fighting terrorism the FATF way", *Global Governance*, vol. 13, no. 3, 2007, p. 333.

73 FATE, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 12.

certain issues, to “issuing a formal FATF statement to the effect that the member jurisdiction is insufficiently in compliance with the FATF Recommendations”, or suspending or terminating FATF membership.<sup>74</sup>

Although some have criticized the methodology of the FATF as being “skewed towards measuring legal frameworks, in minute detail and great length”,<sup>75</sup> a number of other assessments are highly positive, and several aspects of the FATF mutual evaluations are of particular note. First, as with the APRM, the FATF process includes a questionnaire intended to provide the necessary information required to inform the on-site visit; however, as the guidelines indicate, “It does not ask detailed questions, but countries must set out fully how they meet each Methodology criterion”.<sup>76</sup> In this regard the FATF process is a performance evaluation rather than a checklist. A second point that relates to the above is that the mutual assessments are scalable, in the sense that there is no one-size-fits-all approach—rather the focus is on what works. As the guidance notes, “Assessors must be cognisant that different countries may adopt different approaches to meeting the FATF standards, and so need to be open and flexible, and seek to avoid narrow comparisons with their own national solutions”.<sup>77</sup>

Third, the assessor team is selected on the basis of a number of factors including language, experience, and the type of legal system being assessed. Expert assessors normally form groups of four, comprised typically of one legal expert, two financial experts, and a law enforcement officer, and are selected from a list on the basis of attributes and neutrality. As the FATF guidance notes, a “list of assessors will be kept, and the Secretariat will try to keep the process a mutual one, in which all members provide an expert for at least one mutual evaluation”.<sup>78</sup> Fourth, the FATF process places great emphasis on on-site inspection as a means to gauge success of implementation:

The on-site visit provides the best opportunity to clarify issues relating to the country’s AML/CFT system, and assessors need to be fully

<sup>74</sup> Ibid., p. 14.

<sup>75</sup> Global Witness, *How FATF Can Measure and Promote an Effective Anti-Money Laundering System*, 2012, p. 3.

<sup>76</sup> FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 5.

<sup>77</sup> Ibid., p. 7.

<sup>78</sup> Ibid., p. 6.

prepared to not only examine the laws, regulations, guidelines and institutional measures, but to also review the effectiveness of the system.<sup>79</sup>

Fifth, as was the case with the APRM, the FATF model is not exclusively based on the governmental perspective, rather it integrates the view of the private sector. As the process and procedures document notes, “the meetings with the private sector are an important part of the visit, and generally, the assessors should be given the opportunity to meet with the various representatives of associations and institutions in private, and without a government official present”.<sup>80</sup>

Finally, it is of note that the FATF operates on the basis of a system of “graduated peer pressure on noncomplying members”.<sup>81</sup> As noted in the previous section, peer pressure is important and is likely to be most effective “when the outcome of the peer review is made available to the public ... . When the press is actively engaged with the story, peer pressure is most effective. Public scrutiny often arises from media involvement”.<sup>82</sup> The FATF does this particularly well. As Jensen and Png have stated, the FATF’s “rigorous scrutiny through mutual evaluation, public disclosure and its associated peer pressure has contributed significantly to the development of AML/CFT regimes around the world”, adding that “The peer pressure associated with the ongoing mutual evaluation and assessments and related public scrutiny and disclosure also has the effect of encouraging countries not to lag behind their peers”.<sup>83</sup> All of this makes the voluntary nature of the FATF’s mutual evaluations particularly remarkable. As Lennane has stated, FATF mutual evaluations:

do not pull punches ... . Such frankness would turn most disarmament diplomats’ hair white: many of them spend their entire careers trying to ensure their governments are never exposed to such criticism. And

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79 Ibid., p. 7.

80 Ibid.

81 K.L. Gardner, “Fighting terrorism the FATF way”, *Global Governance*, vol. 13, no. 3, 2007, p. 333.

82 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 6.

83 See N. Jensen and C.-A. Png, “Implementation of the FATF 40+9 Recommendations: a perspective from developing countries”, *Journal of Money Laundering Control*, vol. 14, no. 2, 2011.



yet the member governments of the FATF willingly subject themselves to this kind of scrutiny, without any legal obligation to do so ...<sup>84</sup>

It remains clear that the work of the FATF is a far cry from the world of biological disarmament and the necessary resources to achieve an FATF-level model means it is unlikely to be something that could be transferred wholesale to the BTWC. Nonetheless there is much to learn from this model, which, as the French working paper indicated, has proved a successful formula in the “development and promotion of national and international policies to combat money-laundering and terrorist financing”.<sup>85</sup>

### OECD DEVELOPMENT ASSISTANCE COMMITTEE PEER REVIEW

The OECD has more than 50 years of experience with peer-review mechanisms and currently employs such tools in a number of different fields including development assistance, environmental performance, and regulatory reform. The OECD states:

Among the OECD’s core strengths is its ability to offer its members a framework to compare experiences and examine “best practices” in a host of areas ...

...

OECD peer reviews, where each country’s policy in a particular area is examined by fellow members on an equal basis, lie at the heart of this process. A country ... can learn valuable lessons from its peers on what has worked and what has not. This can save time, and costly experimenting, in crafting effective national policies. The recommendations resulting from such a review can also help governments win support at home for difficult measures. And perhaps most importantly, because everyone goes through the same exercise, no country feels it is being singled out.<sup>86</sup>

One of the most established types of OECD peer review is that of the Development Assistance Committee (DAC), which serves as a space for

84 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 48.

85 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011, para. 2.

86 See “Peer review”, <[www.oecd.org/site/peerreview](http://www.oecd.org/site/peerreview)>.

donors to “exchange experience and to address issues of common interest or concern”.<sup>87</sup> Country reviews work on a quinquennial basis and the OECD conducts roughly five reviews each year. The purpose of the DAC peer-review process is:

- To monitor DAC Members’ development co-operation policies and programmes, and assess their effectiveness, inputs, outputs and results against the goals and policies agreed in the DAC as well as nationally established objectives.
- To assist in improving individual and collective aid performance in both qualitative and quantitative terms.
- To provide comparative reporting and credible analysis for wider publics in OECD countries and the international community.
- To identify best practices, share experience, and foster co-ordination.<sup>88</sup>

The process takes approximately six months and draws in a range of different actors, principally states and representatives of government departments, but also civil society and academia. There are seven phases to the OECD DAC peer-review process, described below.

## OECD DAC PEER REVIEW<sup>89</sup>

### Preparation

The preparatory phase involves the selection of examiners, the organization of meetings, and the collection of the relevant documentation in appropriate languages.

### Field visits

Field visits serve to elicit an “understanding of the way in which [policy] implementation is carried out in the field”.<sup>90</sup> Visits are normally undertaken by members of the Secretariat and at least one examiner and last roughly a week, in which time the team speaks to “a wide range

87 See “DAC information note on the peer review process for peer review participants”, <[www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm](http://www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm)>.

88 Ibid.

89 Ibid.

90 Ibid.

of local actors, including partner government officials, beneficiaries, civil society representatives and other major donors to that country”.<sup>91</sup> These visits are preceded by a questionnaire “sent out to the reviewed country approximately one month in advance of the visit”. The questionnaire is tailor-made by the Secretariat and “provides the reviewed member with the issues of priority for the field visit”. This is normally accompanied by a formal letter “briefly explaining the process and requesting meetings with various relevant actors in the field, such as staff in the field, beneficiaries, local staff, civil society representatives, etc.”.<sup>92</sup>

### **Visit to the capital of the member under review**

The OECD describes the visit to the capital as:

the main fact-finding mission of the review team. The mission to the capital seeks to cover all relevant areas of the reviewed Member’s programme, and involves interviews/meetings with a wide range of functional units within the aid ministry/agency. Meetings with Parliamentarians are also usual, as are sessions with [non-governmental organization] umbrella groups. Academics and research initiatives sometimes provide invaluable information and critiques.<sup>93</sup>

The visit normally takes four to five days.

### **Drafting of the report**

Upon the completion of key field missions:

The Secretariat consolidates information gathered during the missions as well as from other sources. In consultation with the examiners, it drafts the two parts of the Peer Review report including the annexes. A draft of the Secretariat Report (Part 2) is first shared with the examiners for comments and is subsequently sent to the reviewed member who has one to two weeks to undertake a factual check of the text.<sup>94</sup>

### **The peer-review meeting**

The peer-review meeting is a key element of the peer-review process and brings the DAC Chairman, the Secretariat, the examiners, and the

91 Ibid.

92 Ibid.

93 Ibid.

94 OECD, *Information Note on the DAC Peer Review Process*, document DCD(2009)6/REV1, 6 September 2010, para. 18.

reviewed state together to present the findings and recommendations from the process over the course of a day-long meeting.<sup>95</sup>

### **Editorial session**

The editorial session takes place shortly after the peer-review meeting and serves to make any necessary factual changes and corrections to the report, which is subsequently reviewed by the examiners and the assessed state.

### **Publication**

The report is subsequently published in the quarterly journal of the DAC.

### **Follow-up**

Some six to eight months after the peer-review meeting, the DAC Chair returns to the examined state's capital to "discuss adoption of the recommendations made at the time of the peer review meeting". Member states are obliged to outline developments and activities undertaken over the intervening period.<sup>96</sup>

Recent DAC reviews include Greece, Spain, the United States, and a "Special Review of the Slovak Republic's Development Co-operation", all of which are publicly available.<sup>97</sup> Historically, all DAC members have been reviewed and, like the FATF and the APRM, DAC reviews are forthright in their language. For example:

As identified in 2004, Italy needs appropriate government mechanisms to foster better coherence among policies. ... The lack of political commitment, policy statements, and any mandate to ensure policies are coherent with development objectives, make institutional co-ordination and monitoring difficult.<sup>98</sup>

95 See "DAC information note on the peer review process for peer review participants", <[www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm](http://www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm)>.

96 Ibid.

97 See <[www.oecd.org/dac/peerreviewsofdacmembers/publicationsdocuments/reports](http://www.oecd.org/dac/peerreviewsofdacmembers/publicationsdocuments/reports)>.

98 See "Italy (2009) DAC peer review—main findings and recommendations", <[www.oecd.org/dac/peerreviewsofdacmembers/italy2009dacpeerreview-mainfindingsandrecommendations.htm](http://www.oecd.org/dac/peerreviewsofdacmembers/italy2009dacpeerreview-mainfindingsandrecommendations.htm)>.

Two other issues are of note on the OECD DAC reviews. The first is that there is a systematic process of sharing information on best practice and learning from each other's mistakes and the OECD has collected and collated key lessons from the peer-review process<sup>99</sup> that have been articulated in the OECD report *Effective Aid Management—Twelve Lessons from DAC Peer Reviews*.<sup>100</sup> Another feature of the OECD process is that, as with other peer-review processes, the OECD engages a range of stakeholders including parliamentarians as well as “civil society representatives and other major donors to that country”,<sup>101</sup> with the latter engaged both in field visits and the capital visits and identified as a valuable source of information for reviewers.

### IAEA INTEGRATED REGULATORY REVIEW SERVICE PEER-REVIEW MECHANISM

The process of peer review has been employed by the IAEA in several areas.<sup>102</sup> Recognizing the overlap between these review processes, the IAEA's Department of Nuclear Safety and Security sought to combine the

99 See “Lessons from peer reviews”, <[www.oecd.org/dac/peerreviewsofdacmembers/lessonsfrompeerreviews.htm](http://www.oecd.org/dac/peerreviewsofdacmembers/lessonsfrompeerreviews.htm)>.

100 OECD, *Effective Aid Management—Twelve Lessons from DAC Peer Reviews*, 2008.

101 See “DAC information note on the peer review process for peer review participants”, <[www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm](http://www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm)>.

102 For example: “(a) the International Regulatory Review Team (IRRT) programme that provided advice and assistance to Member States to strengthen and enhance the effectiveness of their legal and governmental infrastructure for nuclear safety; (b) the Radiation Safety and Security Infrastructure Appraisal (RaSSIA) that assessed the effectiveness of the national regulatory infrastructure for radiation safety including the safety and security of radioactive sources; (c) the Transport Safety Appraisal Service (TranSAS) that appraises the implementation of the IAEA's Transport Regulations; (d) the Emergency Preparedness Review (EPREV) that reviews both preparedness in the case of nuclear accidents and radiological emergencies and the appropriate legislation; and (e) the International Physical Protection Advisory Service (IPPAS) that reviews the effectiveness of State systems of physical protection and [provides] advice and assistance to strengthen and enhance these systems”; see “Workshop on the Lessons Learned from the Integrated Regulatory Review Services (IRRS) Mission to Spain”, <[www-pub.iaea.org/mtcd/meetings/Announcements.asp?ConfID=37373](http://www-pub.iaea.org/mtcd/meetings/Announcements.asp?ConfID=37373)>.

reviews and “developed an integrated approach”.<sup>103</sup> This resulted in the creation of the IAEA’s Integrated Regulatory Review Service (IRRS) in 2006. The IRRS is designed to:

strengthen and enhance the effectiveness of the national regulatory infrastructure of States for nuclear, radiation, radioactive waste and transport safety and security of radioactive sources whilst recognizing the ultimate responsibility of each State to ensure safety in the above areas.<sup>104</sup>

IRRS missions are explicitly “not inspections or audits”<sup>105</sup> but peer-review evaluations conducted by expert peer teams, consisting of between 15 and 25<sup>106</sup> experts who are selected by the IAEA from other IAEA member states.<sup>107</sup> These teams are tasked with conducting an objective evaluation of the host state’s national regulatory system vis-à-vis established international standards,<sup>108</sup> as articulated in documents such as the IAEA Safety Standards Series publication *Governmental, Legal and Regulatory Framework for Safety*,<sup>109</sup> and developing a series of recommendations where necessary.

While assessment is standardized, the IRRS recognizes that an approach to nuclear regulation must include room for variance:

The IRRS process recognizes that organizational structure and regulatory processes vary from country to country depending on national legal and administrative systems, the size and structure of the nuclear and radiation protection programme, financial resources available to the regulatory body, social customs and cultural traditions.

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103 Ibid.

104 See “Integrated Regulatory Review Service”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>.

105 IAEA, *International Nuclear Safety Experts Conclude IAEA Peer Review of Swiss Regulatory Framework*, press release 2011/28, 2 December 2011.

106 See “Integrated Regulatory Review Service mission to the United States”, <[www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html](http://www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html)>.

107 See Swedish Radiation Safety Authority, *IRRS 2012: Integrated Regulatory Review Service at the Swedish Radiation Safety Authority*, 2012.

108 See “Integrated Regulatory Review Service”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>; see also “IAEA Integrated Regulatory Review Service (IRRS) missions to the United Kingdom”, <[www.hse.gov.uk/nuclear/regulatoryreview/index.htm](http://www.hse.gov.uk/nuclear/regulatoryreview/index.htm)>.

109 See IAEA, *Governmental, Legal and Regulatory Framework for Safety*, document STI/PUB/1465, 2010.

The IRRS has been constructed to allow for all such variations within a single integrated review service.

...

It ... accepts different approaches to the organization and practices of a regulatory framework and regulatory body that contribute to a strong national nuclear and radiation safety regime.<sup>110</sup>

This is achieved through the adoption of a modular approach to reviewing, with different modules focusing on specific areas; for example the IRRS safety package includes modules on, *inter alia*, “Governmental, Legal and Regulatory Framework for Safety”, “Human Resources Development” and “Radiation Protection”.<sup>111</sup> The process enables the service to be tailored to “meet the needs and priorities of the Member State”.<sup>112</sup>

These areas are dealt with over three phases beginning with a self-assessment exercise in which the state under review completes a questionnaire process. The responses are then evaluated by the assessor team. Subsequently, in the second phase, the assessment team conducts an independent peer review (including on-site inspections) and completes a report with recommendations and suggestions for improvement. In the third phase a final action plan is developed based on the recommendations and suggestions in the peer-review report and the preliminary action plan. In the years following the peer-review process the evaluated state will seek to respond to the recommendations and suggestions agreed upon.

## IAEA IRRS REVIEWS (BASED ON THE SWEDISH AND US REVIEW PROCESSES)

### Self-assessment

In the first phase a state will conduct a self-assessment process using IRRS guidelines and the Self-Assessment Tool that has been developed “for Member States to facilitate the self-assessment of national regulatory

110 See “Integrated Regulatory Review Service”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>.

111 See “Establishing the safety infrastructure”, <[www-ns.iaea.org/tech-areas/safety-infrastructure/ssg-16-module-1.asp?s=0&l=94](http://www-ns.iaea.org/tech-areas/safety-infrastructure/ssg-16-module-1.asp?s=0&l=94)>.

112 IAEA, *Integrated Regulatory Review Service (IRRS) to Germany*, 28 November 2008, p. ii.

infrastructure for nuclear and radiation safety”.<sup>113</sup> The assessor team conducts a review of the written material at this stage. In the Swedish case, the first phase resulted in “a summary report and a preliminary action plan on improvement measures in the short and long term”.<sup>114</sup>

### **IRRS peer-review mission**

In the second phase, the assessor team “independently peer reviews the host regulator to evaluate the self-assessment and the regulator’s planned actions”.<sup>115</sup> This second phase employs a number of methods including interviews with counterparts and other personnel and “Direct observations of organization, practices and activities (regulatory body, government departments and nuclear facilities and activities)”.<sup>116</sup> The team then produces a report containing “recommendations and suggestions for improvement”, which is submitted to the responsible regulatory authority.<sup>117</sup>

### **Final action plan**

In the third phase of the IRRS process the regulatory authority uses “the preliminary action plan and the review team’s recommendations and suggestions as a platform for a final action plan based on results from the review report. Implementation of the action plan will be followed up in an additional IRRS review mission after two to four years”.<sup>118</sup>

A number of points are of note for the purpose of this study. First, recognizing that no one size fits all, the IRRS has developed a modular approach to evaluation that enables states under review to select areas of

113 See “Integrated Regulatory Review Service”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>.

114 Swedish Radiation Safety Authority, *IRRS 2012: Integrated Regulatory Review Service at the Swedish Radiation Safety Authority*, 2012, p. 6.

115 See “Integrated Regulatory Review Service mission to the United States”, <[www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html](http://www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html)>.

116 G. Caruso and K. Mrabit, *IRRS Highlights*, 2007, p. 25, <[www-ns.iaea.org/downloads/coordination/snr-reg-meeting-2007/SRM2007-CarusoMrabit.pdf](http://www-ns.iaea.org/downloads/coordination/snr-reg-meeting-2007/SRM2007-CarusoMrabit.pdf)>.

117 Swedish Radiation Safety Authority, *IRRS 2012: Integrated Regulatory Review Service at the Swedish Radiation Safety Authority*, 2012, p. 6.

118 Ibid.



assessment. The process also takes into consideration differences between states' legal systems, financial resources, social customs, and culture.<sup>119</sup> This approach is interesting as it suggests it is possible to develop a flexible and scalable approach to peer review in an organization such as the IAEA. Related to this point, it is also apparent that new modules of assessment can be added over time as new issues emerge, for example to adapt assessment modules to suit a changing context and membership. In 2012, for example, a "'Fukushima module' was incorporated into the scope of IRRS missions to take account of the initial regulatory implications of the accident".<sup>120</sup>

A second feature is that the peer-review system includes interviews and discussion with staff and "Direct observations of organization, practices and activities (regulatory body, government departments and nuclear facilities and activities)".<sup>121</sup> In the case of the United States, for example, as part of the 2011 review IRRS held interviews with management and staff at Limerick nuclear power plant and Salem nuclear power plant.<sup>122</sup> In the case of the United Kingdom's second review there was a "routine inspection" of the Sellafield nuclear plant. In China, "the IRRS team visited several nuclear facilities, including a nuclear power plant, a manufacturer of safety components for nuclear power plants, a research reactor, a fuel cycle facility".<sup>123</sup> In the Islamic Republic of Iran, IRRS reviewers were invited to the Bushehr nuclear power plant. Effectively this suggests peer-review teams are able to conduct "on-site" evaluations of the regulatory practices employed in nuclear facilities and speak with staff in facilities.

A third interlinked feature is that the IAEA IRRS reviews appear to be in demand across the globe, something that is remarkable considering that states pay to voluntarily expose—albeit selected—nuclear power facilities

119 There is, for example, a specific approach for developing countries; see "IRRS Tailored for the Embarking Countries [Embarking Nuclear Power States]", <[www-ns.iaea.org/downloads/ni/ds424-files/Catalog\\_ReviewService\\_SafetyInf\\_Mod1.pdf](http://www-ns.iaea.org/downloads/ni/ds424-files/Catalog_ReviewService_SafetyInf_Mod1.pdf)>.

120 IAEA, *IAEA Annual Report 2011*, document GC(56)/2, 2011, p. 18.

121 G. Caruso and K. Mrabit, *IRRS Highlights*, 2007, p. 25, <[www-ns.iaea.org/downloads/coordination/snr-reg-meeting-2007/SRM2007-CarusoMrabit.pdf](http://www-ns.iaea.org/downloads/coordination/snr-reg-meeting-2007/SRM2007-CarusoMrabit.pdf)>.

122 See IAEA, *The Integrated Regulatory Review Service (IRRS) Mission to the United States of America*, document IAEA-NS-IRRS-2010/02, 2010.

123 IAEA, *International Nuclear Safety Experts Conclude IAEA Peer Review of China's Regulatory System*, press release 2010/10, 20 July 2010.

to an international inspection team *and* then subject aspects of these facilities to criticism that, as with other peer-review models, is blunt. The IRRS review requested by the Greek Atomic Energy Commission, for example, identified several issues warranting attention and stated that “the nation’s legal framework is dated, lacks the flexibility of a risk-based regulatory framework that provides for a graded approach to safety and has gaps particularly in respect of waste and decommissioning”.<sup>124</sup> The IRRS review of the Iranian Bushehr nuclear power plant, which was conducted at the invitation of the Islamic Republic of Iran, for example, stated that:

- The Government should support the prompt enactment of a law establishing INRA [Iran Nuclear Regulatory Authority] as an independent nuclear regulatory authority, as well as provide it with all authority and resources needed to carry out its functions.
- The Government is encouraged to join the *Convention on Nuclear Safety* and the *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*.
- INRA should replace the existing set of ad hoc regulatory requirements with a comprehensive system of national nuclear safety regulations.<sup>125</sup>

Despite such forthright recommendations, based on the IAEA annual reports and press releases more than 40 states have had some degree of peer-review process undertaken, including Botswana, Canada, China, Côte d’Ivoire, Germany, the Islamic Republic of Iran, Lebanon, Peru, the Republic of Korea, Romania, the Russian Federation, Slovenia, Sweden, Switzerland, the United Arab Emirates, the United States, and Viet Nam. This suggests there is something inherently beneficial from the process, not least of which is that states can—and follow-up reports would suggest *do*—take advantage of the recommendations and suggestions offered by the IRRS experts in the development of the state’s regulatory regime. To quote the Greek Atomic Energy Commission on its reasoning why IRRS visits are important, it was stated that they enable “the identification of strengths and weaknesses, the improvement of ... efficiency and effectiveness, the sharing of international experience and good practices”.<sup>126</sup>

124 IAEA, *IAEA Team Concludes Peer Review of Greece’s Regulatory Framework for Radiation Safety*, press release 2012/12, 31 May 2012.

125 See IAEA, *International Experts Conclude IAEA Peer Review of Iran’s Safety Regulation of Bushehr NPP*, press release 2010/03, 2 March 2010.

126 See “IRRS mission in Greece”, <[www.eeae.gr/en/index.php?fvar=html/president/\\_ana\\_irrs\\_mission](http://www.eeae.gr/en/index.php?fvar=html/president/_ana_irrs_mission)>.

## EUROPEAN NUCLEAR SAFETY REGULATORS GROUP STRESS TESTS

Following the events at the Fukushima Daiichi power plant in 2011, the European Council requested European nuclear plants be subjected to a “comprehensive safety and risk assessment”, the purpose of which was:

to assess the compliance of the stress tests with the ENSREG [European Nuclear Safety Regulators Group] specifications, to check that no important problem has been overlooked and to identify strong features, weaknesses and relevant proposals to increase plant robustness in light of the preliminary lessons learned from the Fukushima disaster.<sup>127</sup>

The ENSREG peer-review assessment process was novel in the sense that it employed data from a focused “stress test” process voluntarily undertaken by European Union member states in order to “assess the safety and robustness of nuclear power plants ... with regard to the preliminary lessons learned from Fukushima”.<sup>128</sup> Building on the stress tests, the peer-review process sought to evaluate the “comprehensiveness and the consistency with standards of the approaches taken by the operators and the national regulators in their work”,<sup>129</sup> and was conducted through a two-phase methodology beginning with a desk-based review of the national reports focusing particularly on topics of extreme natural hazards, loss of safety systems, and severe accident management issues.<sup>130</sup> The results of the topical review were subsequently integrated into national reports that were enhanced through a process of discussion and visits to nuclear power facilities designed to resolve any outstanding issues.

The ENSREG peer-review process has received criticism from a range of different bodies. For example, Greenpeace suggested that “national regulators hijacked the peer-review system and undermined its credibility” and that regulators were unable to “think the unthinkable”, dismissing some proposed scenarios as hypothetical, which weakened the exercise.<sup>131</sup>

127 ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i–2012 04 25, 2012, p. 2.

128 Ibid., p. 7.

129 Ibid., p. 8.

130 See “Public meeting: post-Fukushima stress tests peer review”, <[www.ensreg.eu/sites/default/files/Stress%20Tests%20-%20Peer%20review%20-%20Public%20meeting%20notes%20-.pdf](http://www.ensreg.eu/sites/default/files/Stress%20Tests%20-%20Peer%20review%20-%20Public%20meeting%20notes%20-.pdf)>.

131 J. Haverkamp, *Can the Stress Tests Be Saved from Greenwash?*, Greenpeace, 2012, p. 2, <[www.ensreg.eu/sites/default/files/13-Greenpeace-Haverkamp-paper.pdf](http://www.ensreg.eu/sites/default/files/13-Greenpeace-Haverkamp-paper.pdf)>.

The European Atomic Forum, an association of nuclear industry actors in Europe, criticized the ENSREG process for failing to fully appreciate the depth of differences in facilities in Europe and overlooking the importance of the “organizational and human factor”. They did however recognize that “Peer Review allows for sharing best practices and contributes to global improvement”.<sup>132</sup> Moreover ENSREG acknowledged that they faced a number of challenges themselves including:

- coordination of many participants;
- variation in the quality of the reviews;
- difficulties with ensuring a common assessment of national reports based on different national regulatory approaches; and
- differing expectations of the peer-review process.<sup>133</sup>

The criticism of ENSREG peer reviews is perhaps mitigated by the fact that the stress test and peer-review exercise were both novel and are acknowledged as having been “conducted over a deliberately compressed timescale”.<sup>134</sup>

There are a number of novel features in the ENSREG stress test and peer-review process. The first is that it was designed specifically in response to an event and provided ENSREG an intensive process for learning lessons after Fukushima. This may kick-start a broader range of activities as it could provide input for further improvements and/or harmonization. The process also enhanced public understanding of the nuclear industry and perhaps improved confidence among the public in the wake of the Fukushima disaster. A second feature is that, as in the IAEA IRRS peer-review process, the ENSREG review teams were permitted to visit nuclear plants with the review team identifying which plant to visit in each country.<sup>135</sup> During the plant visit “staff and facilities were also made available to the visiting

132 J.-P. Poncelet and J.-P. Berger, *Perspective on the “Stress Tests” (Complementary Safety Assessments) and Peer Reviews: The European Nuclear Industry View*, presentation at the Public Meeting on Post-Fukushima Stress Tests and Peer Review, Brussels, 17 January 2012, p. 16, <[www.ensreg.eu/sites/default/files/10-Foratom-Pocelet.pdf](http://www.ensreg.eu/sites/default/files/10-Foratom-Pocelet.pdf)>.

133 P. Jamet, *Stress Tests Peer Review*, presentation at the Public Meeting on Post-Fukushima Stress Tests and Peer Review, Brussels, 17 January 2012, pp. 20–23.

134 ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i–2012 04 25, 2012, p. 14.

135 *Ibid.*, p. 3.

team to discuss ... issues” and this served to “provide complementary information on some aspects of the implementation and results of the stress tests”.<sup>136</sup> A third feature is that a number of questions and comments from the general public were invited and an “opportunity to submit suggestions via the internet to be considered in the peer-review process was provided from 1 to 20 January 2012 at the Commission’s Joint Research Centre website”.<sup>137</sup> Moreover there was a public meeting on “Post-Fukushima Stress Tests and Peer Review”, held in Brussels in January 2012 with participation of the European nuclear industry, the European Federation of Trade Unions, and Greenpeace.<sup>138</sup>

## THE FUNCTIONS OF PEER REVIEW

The concept of peer review in international organizations is not new, yet it does appear to be gaining popularity and is increasingly widely used in the areas identified above. Peer review has been used by, among others, the United Nations Environment Programme, the United Nations Conference on Trade and Development, the United Nations Economic Commission for Europe, and the International Monetary Fund. Despite being devoid of the teeth that characterize traditional inspection regimes in arms control agreements, peer review does appear to offer a carrot and a stick, as well as a space for explanation and the sharing of best practice. Indeed, peer review can assume a number of functions.

### PEER REVIEW AS A TRANSPARENCY AND CONFIDENCE-BUILDING MECHANISM

The peer-review process requires the collection, collation, and translation of detailed information on activities undertaken by the state under review. The availability of such information is useful as a transparency mechanism, particularly as a space is provided to consult on and clarify any ambiguities or doubts, check the accuracy of national submissions, and raise any questions the submitted material may generate in a safe environment. In this regard transparency provided for a peer-review process should be understood as “more than just the availability of relevant information. It

<sup>136</sup> Ibid, p. 11.

<sup>137</sup> See “Public engagement”, <[www.ensreg.eu/EU-Stress-Tests/Public-engagement](http://www.ensreg.eu/EU-Stress-Tests/Public-engagement)>.

<sup>138</sup> See “Public meeting 17 January, 2012”, <[www.ensreg.eu/EU-Stress-Tests/Public-engagement/Public-Meeting](http://www.ensreg.eu/EU-Stress-Tests/Public-engagement/Public-Meeting)>.

is also about usefulness. It is about taking note, reflecting, analyzing and assessing the information exchanged, and ensuring that any outstanding and emerging questions are answered”.<sup>139</sup> Peer review therefore has the potential to serve to build transparency and resolve any ambiguities or questions surrounding a state’s practice. This in turn could help in building confidence; knowing what other states have in place to comply with obligations (and knowing that what is in place has been independently evaluated and subjected to quality control) would certainly provide a clearer picture of the state of play.

### PEER REVIEW AS A MECHANISM FOR QUALITY CONTROL

One of the key roles of peer review is as a means of engendering quality control and identifying weaknesses in a system in practice in order to rectify issues and raise standards. For example, the IRRS peer review of the Swedish nuclear environment provided “valuable insight for our continued improvement work. A review of our operations strengthens our credibility and helps us to live up to our motto, ‘Radiation safety first!’”.<sup>140</sup> To quote Swiss Federal Nuclear Safety Inspectorate Director General Hans Wanner, “The findings of the IRRS mission will help us to further improve our work. That is part of our safety culture”.<sup>141</sup>

### PEER REVIEW AS A FORUM FOR SHARING BEST PRACTICE AND CAPACITY-BUILDING

A number of peer-review systems are designed wholly or in part as a means to share best practice. As an OECD report on the topic states, “Peer review can also serve as an important capacity-building instrument, since it is a mutual learning process in which best practices are exchanged. This is true not only for the country under review, but also for other countries, especially those acting as lead examiners”.<sup>142</sup> Certainly this is the case

139 Norway, Switzerland, and New Zealand, *Working Paper on the Confidence Building Measures*, 2011, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_WP\\_Norway-NewZealand-Switz\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_WP_Norway-NewZealand-Switz_E.pdf)>.

140 Swedish Radiation Safety Authority, *IRRS 2012: Integrated Regulatory Review Service at the Swedish Radiation Safety Authority*, 2012, p. 3.

141 See “International Nuclear Safety Experts conclude IAEA peer review of Swiss regulatory framework”, <<http://static.ensi.ch/1322814627/irrs-press-release.pdf>>.

142 OECD, *Peer Review: A Tool for Co-operation and Change*, policy brief, January 2007, p. 6.

with the IAEA IRRS mechanism, which has the objective of “sharing of international experience and good practices”.<sup>143</sup> The APRM mechanism is explicit in its objective of the “sharing of experiences and reinforcement of successful and best practices”.<sup>144</sup> The process of sharing best practice in turn serves to improve individual and collective performance and build capacity in specific issue areas addressed by the peer-review process. This is perhaps particularly useful in circumstances where concepts, such as the practice of laboratory biosecurity, are relatively new in many places around the world.

### PEER REVIEW AS A MEANS TO APPLY PRESSURE

Finally, peer review operates on the basis of interlinked peer pressure and public scrutiny, particularly if the results and recommendations of a peer-review process are made publicly available as this can serve to “name and shame”. As one commentary on the FATF mutual evaluations states, “the peer pressure associated with the ongoing mutual evaluation and assessments and related public scrutiny and disclosure also has the effect of encouraging countries not to lag behind their peers”.<sup>145</sup> Yet unlike traditional legal enforcement mechanisms the peer-review process has the flexibility to take into account a state’s policy objectives, and to look at its performance in a historical and political context.

### A PEER-REVIEW MECHANISM FOR THE BTWC

The concept of a peer-review mechanism should not be alien to the BTWC states parties. On the contrary, historically the use of peer-review mechanisms has been raised by a number of different states and other stakeholders within the BTWC forum, albeit in very different contexts. For example, a small collective of states parties to the Convention have already engaged in meetings, such as the “Ensuring Compliance with the Biological Weapons Convention” meeting, the purpose of which was:

143 IAEA, *IAEA Team Concludes Peer Review of Greece’s Regulatory Framework for Radiation Safety*, press release 2012/12, 31 May 2012.

144 See “About APRM”, <<http://aprm-au.org/about-aprm>>.

145 See N. Jensen and C.-A. Png, “Implementation of the FATF 40+9 Recommendations: a perspective from developing countries”, *Journal of Money Laundering Control*, vol. 14, no. 2, 2011.

to facilitate information sharing and discussion among a small group of governmental and non-governmental experts about the processes used by various governments and government agencies to ensure their compliance with the [BTWC]. Its goal was to increase participants' understanding of these processes and their underlying rationales, similarities, and differences, as well as to discuss issues surrounding the sharing of compliance-related information.<sup>146</sup>

Within the BTWC forum a number of states have used the term. For example, a 2005 Indian working paper on the role of codes of conduct alluded to the "creation of institutional framework and processes to ensure voluntary compliance with the codes of conduct, peer review of research work, minimization of risks and provision of opportunity for scientists to abstain or dissociate from engaging in a particular research work".<sup>147</sup>

Similarly, in a working paper prepared by Canada for the 2005 Meeting of Experts, it was suggested that "several codes, particularly in the academic field, stress the importance of obtaining approval and peer review of research. Without this check, it is possible that a project could veer into unintended or dangerous territory".<sup>148</sup> Japan identified peer review as "widely accepted by scientists as means to evaluate scientific research results before publication ... To incorporate the viewpoint of 'preventing abuse/misuse of science and technology' into peer review process may be acceptable, effective and practical means for scientists".<sup>149</sup>

Several other presentations submitted to intersessional meetings have alluded to ensuring "peer review for safety, security and ethical

146 Center for Arms Control and Non-Proliferation; Center for International and Security Studies at Maryland; Center for Science, Technology and Security Policy, American Association for the Advancement of Science; Center for the Study of Weapons of Mass Destruction, National Defense University, *Ensuring Compliance with the Biological Weapons Convention: Meeting Report*, 2008, p. 1.

147 India, *India's Approach to Codes of Conduct for Scientists*, document BWC/MSP/2005/WP.1, 1 December 2005, para. 6.

148 Canada, *The Overlap between Codes of Conduct and Legislation*, document BWC/MSP/2005/MX/WP.7, 9 June 2005, para. 4.

149 K. Serizawa, "Codes of conduct for scientists discussion in Japan", presentation to the Meeting of Experts, 21 June 2005, p. 15, <[www.opbw.org/new\\_process/mx2005/other\\_pres/21jun05/21jun\\_MX05\\_japan\\_serizawaMinistryForeignAff\\_pres.pdf](http://www.opbw.org/new_process/mx2005/other_pres/21jun05/21jun_MX05_japan_serizawaMinistryForeignAff_pres.pdf)>.



implications”,<sup>150</sup> and this past discussion, combined with the diverse nature of peer-review mechanisms employed around the globe in other areas, suggests that the concept of peer review could be applied to the BTWC in a number of different ways, from a process in which an assessment team conducts an evaluation of university biosafety provisions to an assessment of biodefence oversight mechanisms.<sup>151</sup> Because of this diversity in peer-review models and the broad scope for application within the context of the BTWC, the following section explores how a modular approach to a BTWC peer-review mechanism could be applied in order to provide food for thought to states parties that are seeking to nurture the Convention.

In the modular peer-review approach, the starting point would be a basic package, most logically focused on national legislation and regulation. The importance of national legislation has been recognized in an EU Joint Action in support of the BTWC<sup>152</sup> and United Nations Security Council resolution 1540, among other mechanisms, and has been discussed at length in several intersessional process meetings in 2003 and 2007. Accordingly it is perhaps a solid starting place for any peer-review exercise in the Convention, and a basic package would focus on reviewing the implementation of legislation and regulations by a state party.

Although national legislation is clearly important, there are limitations to the value of focusing solely on a review of legislation, not least because there is more to having an effective regulatory system than just laws. As Wetter has remarked, “National legislation is a good—indeed essential—start, but to ensure compliance, national controls must be both enforceable and properly enforced. Their enforcement requires the active and competent involvement of national customs, police, intelligence and prosecution services”.<sup>153</sup>

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150 United States of America, *Presentations Submitted by the United States*, document BWC/MSP/2005/MX/MISC.4, 28 June 2005, p. 17.

151 Canada and Switzerland, *National Implementation of the BTWC: Compliance Assessment*, document BWC/MSP/2012/MX/WP.17, 3 August 2012.

152 See “BTWC implementation assistance”, <[www.euja-btwc.eu/implementation](http://www.euja-btwc.eu/implementation)>.

153 A. Wetter, *Enforcing European Union Law on Exports of Dual-use Goods*, SIPRI Research Report no. 24, Stockholm International Peace Research Institute, p. 138.

Moreover, it is increasingly apparent that implementing the BTWC requires considerably more than the adoption of legislation, and “if the Intersessional Process has done nothing else, it has shown that there is a great deal more to national implementation than the concise terms of Article IV of the [BTWC] would suggest”.<sup>154</sup> Accordingly, a more ambitious approach to a BTWC peer-review mechanism could seek to look at implementation of the Convention more broadly and add on a number of modular components as required. Based on past areas of agreement in either intersessional meetings of states parties or Review Conferences, the following could be considered for inclusion as optional modules to be added to the basic package: export control provision; biosecurity and biosafety provision; outreach, codes, education and engagement; disease outbreak detection and response capacity, international cooperation and assistance; and oversight. These are detailed below.

## ADDITIONAL OPTIONAL MODULES

### International cooperation and assistance

Successive review conferences have stressed the importance of implementing article X of the BTWC, and in this regard, just as the DAC peer-review process has enabled OECD states to share best practice on the delivery of development assistance, the inclusion of an international cooperation module that looked at the extent *and* efficacy of a state party’s international cooperation in the life sciences and/or readiness to provide assistance could be developed as a separate additional module. At the very least the process could initiate a technical discussion based on independently verified data that could feed into ongoing discussions under the Cooperation and Assistance Standing Agenda Item, and could look at states parties’ implementation of article X; “challenges and obstacles to developing international cooperation, assistance and exchange in the biological sciences and technology”; or “ways and means to target and mobilize resources, including financial resources, to address gaps and needs for assistance and cooperation”.<sup>155</sup>

154 R. Lennane, “Building on success: the future of the intersessional process”, in P. Millet (ed.), *Improving Implementation of the Biological Weapons Convention: The 2007–2010 Intersessional Process*, UNIDIR, 2011, p. 259.

155 See Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document*

## Export control

Successive Review Conferences have called “for appropriate measures, including effective national export controls, by all States Parties”<sup>156</sup> and over the course of the last decade there has emerged a degree of “consistency in the identification of the principal elements of effective implementation of actual measures under the [BTWC]”.<sup>157</sup> An export control module could be used to review a state party’s national regulations governing export controls in order to ensure it was both fit for purpose and consistent with the objectives of the Convention. Such a review could draw on language employed in Security Council resolution 1540, past intersessional discussions on export controls, and widely accepted standards to inform a review of what measures states parties had undertaken in areas such as the development of a credible legal basis for prosecution of export violations,<sup>158</sup> ensuring “catch-all controls”,<sup>159</sup> engaging industry,<sup>160</sup> and wrestling with the challenges posed by intangible exports. There could be significant benefits from the inclusion of visits to observe how customs and export control measures operate in practice.

## Laboratory biosecurity and biosafety

In 2008 states parties developed common understandings for the terms biosafety and biosecurity in the context of the Convention and agreed

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*of the Seventh Review Conference, document BWC/CONF.VII/7, 13 January 2012, para. 16.*

156 See *ibid.* and Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Additional Understandings and Agreements Reached by Previous Review Conferences Relating to Each Article of the Convention*, document BWC/CONF.VII/INF.5, 28 September 2011.

157 J. Littlewood, “Export controls and the non-proliferation of materials: national boundaries in international science”, in B. Rappert and C. McLeish (eds.), *A Web of Prevention: Biological Weapons, Life Sciences and the Governance of Research*, 2007, p. 148.

158 See Australia, *Practical Aspects of Export Licensing: Australia’s Experience*, document BWC/MSP.2003/MX/WP.56, 28 August 2003, p. 2.

159 Security Council, *Report Submitted Pursuant to Security Council Resolution 1540 (2004)*, UN document S/AC.44/2004/(02)/4, 14 October 2004, p. 8.

160 See “Key elements of an effective export control system”, <[www.exportcontrols.org/key\\_elements.htm#introduction](http://www.exportcontrols.org/key_elements.htm#introduction)>.

by consensus that “biosafety and biosecurity measures contribute to preventing the development, acquisition or use of biological and toxin weapons and are an appropriate means of implementing the Convention”.<sup>161</sup> The 2008 meeting moreover identified a number of tools such as accreditation tools that could be used to build biosecurity. Based on aspects of the discussion from 2008 and wider biorisk management standards that have been developed at the regional or the international level, a biosecurity and biosafety module could be designed to review the extent to which states parties had taken into consideration key issues related to biosafety and biosecurity, such as personnel reliability, physical security, information technology security, material control and accountability, material transfer security, and programme management. As with export controls, a review of biosafety and biosecurity could benefit from on-site visits that look at implementation in practice as part of a performance review.

### **Outreach, codes, education, and engagement**

Outreach, codes, education, awareness-raising, and engagement have become increasingly salient over the course of the last two intersessional processes and there is a wealth of materials from past meetings, but particularly 2005 and 2009, that could be employed to inform a peer-review module looking at these topics. Such a module could review the extent to which states have implemented these sorts of mechanisms and could benefit from the addition of a survey process for academic and other relevant institutes in order to determine what had been done, if anything at all. In cases where there was information this could be particularly useful to exchange lessons learned and best practice among other interested state parties and other actors. In cases where there was no evidence of activity it could perhaps raise the question of why nothing had been done.

### **Disease outbreak detection and response capacity**

In 2011, the Seventh Review Conference called upon states parties “to continue establishing and/or improving national and regional capabilities

<sup>161</sup> Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Report of the Meeting of States Parties*, document BWC/MSP/2008/5, 12 December 2008, para. 21.

to survey, detect, diagnose and combat infectious diseases”,<sup>162</sup> and this follows intersessional meetings in 2004 and 2009 that focused on issues related to disease outbreak detection and response. In this regard, states parties could consider developing an additional peer-review module to look at disease outbreak detection and response capacity.

### **Oversight mechanisms**

In 2008, “States Parties recognised the value of developing national frameworks to prohibit and prevent the possibility of biological agents or toxins being used as weapons, including measures to oversee relevant people, materials, knowledge and information, in the private and public sectors and throughout the scientific life cycle”.<sup>163</sup> An oversight mechanisms module could be developed as an additional module through which to review what measures a state party has in place to guide researchers on BTWC compliance and ensure consistency of research—particularly biodefence research—with prevalent interpretations of what was prohibited and what was permitted. Such a module is likely to be the most politically sensitive as it straddles compliance with obligations and prohibitions of the Convention. However there is already some evidence of states conducting a peer review of sorts of each others’ biodefence oversight, all be it in an ad hoc manner. For example, in 2008, as noted above, a collective of academic and non-governmental institutions along with government participants from Australia, Canada, Germany, the United Kingdom, and the United States:

organized a meeting on the processes used by several States Parties to the [BTWC] to assess and ensure their own compliance with the Convention.

The purpose of the meeting ... was to facilitate information sharing and discussion among a small group of governmental and non-governmental experts about the processes used by various governments

- 162 Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document of the Seventh Review Conference*, document BWC/CONF.VII/7, 13 January 2012, para. 54(d).
- 163 Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Report of the Meeting of States Parties*, document BWC/MSP/2008/5, 12 December 2008, para. 25.

and government agencies to ensure their compliance with the [BTWC]. Its goal was to increase participants' understanding of these processes and their underlying rationales, similarities, and differences, as well as to discuss issues surrounding the sharing of compliance-related information.<sup>164</sup>

The approach to peer review presented here would thus seek to build on the model successfully employed by the IAEA IRRS peer-review process and would be a voluntary review in which states could, if required, select “modules” of assessment that would be “initiated at the request of the State concerned”.<sup>165</sup> Given the potential breadth of modules of review, there would be a commensurate requirement for a larger team of experts and an expanded data collection process. In turn, should there be appetite for “adding on” a number of modules, the peer-review process would likely benefit from some form of administrative assistance and management particularly in the preparatory phase where a number of arrangements would need to be made.

### THE PREPARATORY PHASE

Following the selection of modules by a state party, the first stage of a peer-review mechanism would be the preparatory process of scheduling different meetings, arranging for the collection, collation, and translation of the relevant information in the target language, and the selection of a suitable peer-review team. In terms of the peer-review team, the process of selection remains dependent upon whether additional modules are required. At a minimum, the basic package for peer review would require legal expertise. However the addition of other modules will variously entail experience with export controls and customs, biosecurity and biosafety, law enforcement, public health, and development. Complicating the

164 Center for Arms Control and Non-Proliferation; Center for International and Security Studies at Maryland; Center for Science, Technology and Security Policy, American Association for the Advancement of Science; Center for the Study of Weapons of Mass Destruction, National Defense University, *Ensuring Compliance with the Biological Weapons Convention: Meeting Report*, 2008, p. 1.

165 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011, para. 6.

peer-review team selection process is that there will need to be a balance between geographical representation in team members and regional appreciation of the context of the state under review. This could be helpful in avoiding narrow approaches to conducting a peer review that rely on any prescribed one-size-fits-all approach.

Regarding the gathering of suitable information, a comprehensive approach would require a comprehensive baseline of data in a number of different areas. Given the limitations of confidence-building measures and quinquennial compliance reports, it is unlikely that existing national submissions will be adequate to conduct a broad review (see the discussion on baseline of state information in the following section). Thus there will be a need to elicit detailed information from the state under review and this will take time to collect, collate, and translate, and for reasons of consistency this process could benefit from some form of guidance for the assembly of relevant materials wherein states parties could explain how they have attended to each of the areas under review.

### **Optional addition 1—National survey**

On possible additional components that could be considered as a means to augment the data collection process, particularly for those that wanted to add on modules related to biosecurity and biosafety, or outreach, codes, education and engagement, one option could be through activity reports from those engaged in the life sciences at the local level, such as biosafety officers working in academia and industry, to provide information on what the situation is locally. Such an approach would be consistent with the trends towards greater stakeholder engagement in the BTWC's decentralized, network model<sup>166</sup> and could go some way to raise awareness of the Convention among those scientists working in the lab that are currently far removed from developments in disarmament diplomacy. Such a stakeholder survey need not be arduous and could be as simple as an email or letter enquiring:

- What measures are in place to build safety and security within your institution?
- Are staff bound by any form of code of conduct or written guidelines?

166 P. Millett, "Why the 2011 BTWC RevCon might not be business as usual", *Disarmament Forum*, no. 1, UNIDIR, 2011.

- What measures are in place to ensure staff are aware of or subscribe to national regulations?

Such questions, which would most logically come from a national focal point of the state under review and/or the review team, are likely to have a greater response than non-governmental or academic inquiries of a similar nature and stimulate the process of building relations between the diplomatic community of practice and the scientific community in states subscribing to a peer-review process. The results could build a picture of whether any of the discussion on topics such as biosecurity or codes of conduct at the international level are trickling down to the local level and whether there are things at the local level that other states parties can learn from.

Clearly, for some countries with extensive biotechnology industry with several hundred facilities, there would be major logistical difficulties in trying to elicit, let alone collect and collate, information in the event there was a wide response. In other countries there may well be no response at all to enquiries. Nonetheless this could be an additional component of the peer-review process that some states might be willing to test out further and there is little to lose through launching such an inquiry.

### **Optional addition 2—Open forum for questions**

A second possible addition that could be developed at this stage is the creation of some form of online forum in which interested parties could submit additional questions for consideration by the peer-review team in order to enhance transparency and perhaps build greater confidence among the public. Recall that the ENSREG model included an “opportunity to submit suggestions via the internet to be considered in the peer-review process”.<sup>167</sup> This process could provide an additional level of scrutiny through a process of societal checks and balances and could encourage states to provide a more detailed account of activities and enhance public confidence.

167 See “Public engagement”, <[www.ensreg.eu/EU-Stress-Tests/Public-engagement](http://www.ensreg.eu/EU-Stress-Tests/Public-engagement)>.



## ON-SITE TRANSPARENCY VISITS

On-site transparency visits could be employed as part of an optional biosafety and biosecurity module for the BTWC peer-review mechanism and would have a very different objective to “comparable inspections under other arms control agreements”.<sup>168</sup> Transparency visits would not be designed to assess compliance with the prohibitions of the BTWC per se, nor would they involve activities such as on-site sampling. Rather they would be used to assess “compliance with the ... obligations of the convention”.<sup>169</sup> More specifically such visits would provide an understanding of how compliance with obligations to undertake biosecurity and biosafety measures at the national level functions in practice.

The prospect of reviving the concept of “visits” in the BTWC context may cause an allergic reaction among some seasoned followers of the Convention. However, it is worth recalling that states, such as the United States, are already inviting a few states parties to the Convention to tour biodefence facilities,<sup>170</sup> and that this sort of visit has become standard practice in other sectors, such as nuclear safety, seemingly because of the role such reviews play as a form of quality control.<sup>171</sup> For example, in a 2010 IRRS review of the United States, a team comprised of representatives from 14 IAEA member states visited “NRC Region I Office; Limerick nuclear power plant in Limerick, Pennsylvania; Salem nuclear power plant in Hancock Bridge, New Jersey; the Headquarters Operations Centre during an emergency exercise”;<sup>172</sup> in the same year another IRRS team conducted a technical visit to assess the safety regulation of the Iranian Bushehr nuclear power plant.<sup>173</sup>

Moreover, since the collapse of the protocol negotiations it is likely that industry, or at least larger biotechnology companies, has become more

168 United Kingdom, *The Role and Objectives of Information Visits*, document BWC/AD HOC GROUP/21, 13 July 1995, para. 9.

169 As phrased by Lennane; R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41.

170 US Department of State, *Remarks at the 7th Biological and Toxin Weapons Convention Review Conference*, document 2011/T56-17, 7 December 2011.

171 See IAEA, *The Integrated Regulatory Review Service (IRRS) Mission to the United States of America*, document IAEA-NS-IRRS-2010/02, 2010.

172 Ibid., p. 7.

173 See IAEA, *International Experts Conclude IAEA Peer Review of Iran’s Safety Regulation of Bushehr NPP*, press release 2010/03, 2 March 2010.

accustomed to visits and external audits conducted by third parties, not least to comply and achieve certification with health and safety or environmental best practice. Certainly visits are performed as part of the process of certification for OHSAS (Occupational Health and Safety Assessment Series) 18001, which deals with areas such as hazard identification and risk assessment, whereas the initial registration to ISO 14001, which provides a global standard for environmental performance, involves a two-stage process, including a document review and a site visit.<sup>174</sup> In addition to visits by auditors from companies accredited to certify compliance with these types of standards, private sector companies also share information on accident and ill-health data as well as best practice. A good example of this is provided by the Pharmaceutical Safety Group, which includes representation from a significant number of large pharmaceutical companies. Although sensitivities over commercial secrecy will doubtless remain, as one experienced industry representative pointed out, “industry is already accustomed to peer-review and perhaps developing this into a more formal interview/on-site observation process would not be that difficult”.<sup>175</sup>

Nonetheless, visits, at least facility visits, could raise a number of issues including “the duration of site visits, conditions of access, site definition, recording conditions, vaccination requirements, the number of facilities to be visited and team size” and would almost certainly require “Candid and credible accounts” of the purpose of the facility, the agents it worked with, and the relevant safety and security measures in place at a site so that an evaluation could be conducted.<sup>176</sup>

Selecting a facility or facilities could prove difficult, not least given the explosion in biotech facilities around the globe over the last two decades. Concentrating on BSL-4 (the highest containment level) and biodefence facilities would be a logical starting point. Moreover, unlike the concept of visits under the protocol negotiations, the purpose of peer-review visits to facilities would be to assess *inter alia* safety and security practices and they would only be initiated at the behest of the state under review.

174 See “Certification to ISO 14001 Environmental Management”, <[www.bsigroup.com/iso-14001-environmental-management/Certification-for-ISO-14001](http://www.bsigroup.com/iso-14001-environmental-management/Certification-for-ISO-14001)>.

175 Personal correspondence.

176 D. Kelly, “The Trilateral Agreement: lessons for biological weapons verification”, in T. Findlay and O. Meier (eds.), *Verification Yearbook 2002*, VERTIC, 2002, p. 95.

Certainly, in accordance with the French vision, “the States concerned would be involved in every stage of the process: each assessment would be undertaken upon their request”.<sup>177</sup> Similar to the IAEA model, facilities could be selected by the state under review and the role of the host in selecting facilities would allow them to focus attention on facilities and issues that were of greatest concern and, correspondingly, could most benefit from a set of recommendations offered by the international experts.

None of these issues should prove insurmountable, particularly if a pilot process were initiated from the bottom up by a collective of committed states and if it maintained respect for the reviewed state’s sovereignty. There could be a number of benefits of reviewing through visits how compliance with the obligations of the Convention functions in practice:

- it could help in sharing best practice in a range of different areas from outbreak response to biosafety regulation;
- it would provide an indication of the practical challenges that some states may be experiencing;
- it could build a link between the local and the international or more specifically between the BTWC and the biosafety officer in cases where one does not already exist;
- it would provide an opportunity to confirm baseline data submissions for any errors or omissions; and
- in some cases it could facilitate education, awareness-raising, engagement, and outreach through interaction between the visiting team and the facility staff.

## ANALYSIS AND DRAFTING PHASE

Subsequent to the visit phase there would need to be a period of reflection in which the data provided by the state party (or acquired through interviews, observations, or surveys depending on what was agreed), could be assessed against some form of pre-agreed baseline criteria for compliance, taking into consideration the country context. The report could also include some form of recommendations where identified

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177 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011, para. 10(d).

and necessary. This process should culminate in the creation of a draft BTWC peer-review team report comprising of a factual report from the assessment, and recommendations where necessary along with all other necessary details.

There is much to learn from other organizations in the development of the report format. The FATF, for example, contains a number of key sections with material divided into description, analysis, recommendations, and comments. The descriptive section provides a factual summary of what measures are in place in country, sometimes using direct citations or summaries. The analysis section reviews what is in place, pointing to any gaps but equally highlighting strengths of the system.<sup>178</sup> Recent examples of IRRS reports go into considerable detail. The report of the 2012 IRRS mission to Sweden, for example, includes several substantive sections covering the areas addressed under the IRRS review, such as “responsibilities and functions of the regulatory body”, “inspection and enforcement processes”, “development and content of regulations and guides”, and “emergency preparedness and response”, but also information on the basis, objective, and scope of the peer-review process; list of participants; IAEA reference material used for the review; site visits; recommendations, suggestions, and good practices; and the mission programme.<sup>179</sup>

### THE CONSULTATION AND CLARIFICATION PHASE

In the consultation and clarification phase, the reviewing team would meet with representatives of the state under review and discuss the findings and recommendations. The phase would thus provide a mutually beneficial space: for reviewers it could present an opportunity to clarify and consult on any outstanding issues and ensure the accuracy of the information; for governments it could provide an opportunity to clarify any omissions or mistakes in information submitted to the peer-review team, to react to the reviewer’s findings and recommendations, and to put forward its own views on the identified shortcomings. There could be an added advantage to following the FATF model and encouraging participation from “experienced experts from different delegations, taking

178 See FATF, *AML/CFT Evaluations and Assessments: Handbook for Countries and Assessors*, 2009.

179 See IAEA, *Integrated Regulatory Review Service (IRRS) Mission to Sweden*, document AIEA-NS-IRRS-2012/01, 2012.

into account regional balance, and from different expertise (legal, financial, law enforcement)".<sup>180</sup> Such experienced experts could play a valuable role in resolving differences and facilitating agreement upon a draft report. In cases where this was not possible because of strong disagreement, an APRM-type model could be applied and government responses and counterarguments could be appended to the peer-review report.<sup>181</sup>

Two possible additional components to the consultation and clarification phase could be envisaged. First, one addition could be the development of deadlines for rectification of any problems or weaknesses identified. This would add a time frame to the peer pressure, particularly if coupled with the prospect of a follow-on review to evaluate progress in rectifying gaps and issues identified in the peer-review process. Second, in order to incentivize participation, it could be useful to marry peer-review recommendations with concrete offers of support from states parties. It is worth recalling here that the Seventh Review Conference agreed to "Establish a database system to facilitate requests for and offers of exchange of assistance and cooperation among States Parties". Under this system:

States Parties are invited, individually or together with other states or international organizations, to submit on a voluntary basis to the Implementation Support Unit any requirements, needs or offers for assistance, including in terms of equipment, materials and scientific and technological information regarding the use of biological and toxin agents for peaceful purposes. The ISU will establish and administer a database, open to all States Parties, where these requests and offers will be stored.

States Parties may use the database to match offers with requests for assistance and then make their own further arrangements.<sup>182</sup>

Such an approach may thus facilitate the provision of assistance where required and may encourage interest from developing countries committed to building capacity in *inter alia* biosafety, biosecurity, public health response, or law enforcement capabilities. Alternatively it is possible

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180 See the overview of the FATF mutual evaluation procedure, above.

181 See "Stages of APRM", <<http://new.uneca.org/aprm/StagesAPRM.aspx>>.

182 Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document of the Seventh Review Conference*, document BWC/CONF.VII/7, 13 January 2012, paras. 17–19.

that support for implementing recommendations from a peer-review process could be acquired through the European Union's CBRN Centres of Excellence, which deal with the mitigation of deliberate, accidental and natural chemical, biological, radiological, and nuclear (CBRN) risks. Either way it will be important to ensure that in circumstances where states are recognized as facing difficulties and subject to criticisms in a peer-review process, they are provided with the requisite attention needed to resolve the problems identified.

### PLENARY DISCUSSION AND PUBLICATION OF REVIEW

In order to maximize the value of a peer-review process, the results would need to be formally presented and shared with others. This could be done through:

- a closed regional-group-type meeting on the sidelines of a BTWC meeting, an approach that could limit the sharing of results to participating states that had agreed to be reviewed;
- the allocation of segments of intersessional meetings as closed "accountability sessions" realizing aspects of the accountability concept proposed by Canada in 2006<sup>183</sup> or in a working session of the Standing Agenda Item (SAI) on strengthening national implementation, which could be incorporated through the agreement under agenda item B, which includes "voluntary exchange of information among States Parties on their national implementation, enforcement of national legislation, strengthening of national institutions and coordination among national law enforcement institutions";<sup>184</sup> or
- presentation by states parties of the results in a public plenary session.

Each of these options has distinct advantages and disadvantages. The closed regional-group-type approach would limit the sharing of information only

183 Canada, *Accountability Framework*, document BWC/CONF.VI/WP.1, 20 October 2006, p. 3.

184 Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document of the Seventh Review Conference*, document BWC/CONF.VII/7, 13 January 2012, para. 24(b).

to participating states—this could serve as an incentive to participate,<sup>185</sup> however it would weaken the value of information in building best practice and exchanging lessons learned. The resurrection of a closed variant of the accountability session or a working session of the SAI would enable the sharing of information with all states parties, something that could add a layer of peer pressure as well as of exchanging lessons learned and best practice. As Lennane has noted, sharing results with all states parties “would do much more to build confidence in compliance”,<sup>186</sup> whereas the use of an open plenary session would allow exchange of information on best practice and more importantly subject a state to additional public and press scrutiny. This latter option, in which participating states would voluntarily and publicly expose themselves to criticism, may prove entirely alien to those more accustomed to disarmament diplomacy, yet it does have precedents elsewhere and would significantly reinforce the value of the peer-review process. Moreover, if coupled with the provision of guaranteed assistance to rectify weaknesses identified by third parties, there would be tangible benefits. A final approach could be to combine different types of meetings and share different levels of information with different audiences.

## FOLLOW-UP

Based on the existing models of peer review identified in this survey, there could be a number of benefits to building in some form of follow-up process as a means to ensure the peer-review process has enduring value beyond the presentation of findings. This could be undertaken through the FATF’s more aggressive model of applying “graduated peer pressure on non-complying Members”<sup>187</sup> or alternatively through the IRRS follow-up review model. In the case of the latter, a follow-up peer review could be scheduled with the objective of “review[ing] the progress in implementing improvements resulting from recommendations and suggestions made in the [peer-review report] and reviewing the areas of significant regulatory changes since then”.<sup>188</sup> In the case of the former,

185 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011.

186 *Ibid.*, p. 46.

187 K.L. Gardner, “Fighting terrorism the FATF way”, *Global Governance*, vol. 13, no. 3, 2007, p. 333.

188 IAEA, *Integrated Regulatory Review Service (IRRS) Follow-up Mission to the Commonwealth Government of Australia*, document IAEA-NS-IRRS-2011/06,

and depending on the results of the peer-review process, the state under review could, in cases where only minor requirements were identified, simply report back to states parties at the end of a fixed period. In cases where more serious deficiencies were identified, states could develop a plan to rectify weaknesses—perhaps using the database mechanism to determine a suitable provider of assistance—and then begin the process of rectifying weaknesses before reporting back within a fixed time frame. In cases where what the FATF calls “enhanced follow-up” were required, additional measures could be applied such as a high-level mission to highlight certain issues or the issuance of a statement to the effect that the participant remains insufficiently in compliance with the obligations of the Convention.

### REFLECTIONS ON THE AMBITIOUS APPROACH TO PEER REVIEW

The peer-review mechanism for the BTWC outlined here clearly falls short of verification as often understood in the context of the protocol negotiations, yet it would provide a “structured and systematic means of providing an increased level of assurance that States Parties are complying with the ... obligations of the convention”.<sup>189</sup> It would also have the added advantage of ensuring that some form of consultation and clarification process takes place in which the reviewers can check what has been submitted; clarify any ambiguities and examine the situation from different perspectives; provide an understanding of how implementation operates in practice; provide a means for sharing best practice; and, through the plenary process, serve to apply additional peer pressure through the publication of results and recommendations and timescales.

A BTWC peer-review process would require a number of prerequisite components in order to function. This would include as a minimum a peer-review team, a baseline of data, some form of criteria from which to gauge performance in potentially a number of different areas, incentives to participate, a credible follow-up process, and the cultivation of political support.

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2011, p. 11.

189 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41.



## PREREQUISITES FOR BTWC PEER REVIEW

This section discusses the prerequisites for peer review, drawing on experiences both outside and inside the BTWC.

### “PEERS”

The first ingredient required would be a peer-review team comprised of “qualified assessors with practical, relevant experience”.<sup>190</sup> There could be some scope for seeking to contract third-party private sector auditors with expertise in the required areas to conduct a peer review. Such an approach could engender a more objective assessment and perhaps exploit the flexible and nimble nature of the private sector. Moreover, as noted above, the biotech industry is increasingly accustomed to third-party assessments whereas civil society organizations such as VERTIC have proved adept at providing legal assessment and assistance. States may be more comfortable bringing in experience and expertise from academics for some of the additional models, for example when dealing with issues such as outreach or awareness-raising.

However, with most issue areas, a peer-review process is likely to have more weight if it is undertaken by individuals nominated by—and representative of—states parties. Such an approach would also appear to be consistent with other models such as the OECD approach to peer review, in which “Generally, the choice of examiners is based on a system of rotation among the member States, although the particular knowledge of a country relevant to the review may be taken into account”.<sup>191</sup>

In the case of the basic peer-review package, the team could be selected from a small pool of legal experts nominated by states parties yet acting independently as objective reviewers. However, in the case of a more ambitious approach, the peer-review process could require a much more diverse set of expertise capable of making an assessment of, *inter alia*, legislation and regulations and their enforcement; biosafety and biosecurity

190 FATF, *AML/CFT Evaluations and Assessments: Handbook for Countries and Assessors*, 2009, p. 6.

191 F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002, para. 19.

in the laboratory; outreach, awareness-raising, and education; and public health detection and response.

In order to maximize the sharing of best practice and satisfy requirements of geographical representation, the peer-review team would need to be drawn from qualified experts from across the globe or at least representatives of the breadth of states parties involved. This could also have a number of advantages in the BTWC context. First, diversity of reviewer backgrounds would help ensure that the peer-review team did not simply undertake “narrow comparisons” with one state or regional solution to issues,<sup>192</sup> and instead took into consideration the context in which a solution is applied. Second, a diversity of backgrounds could lend any peer-review system broader credibility within the BTWC and avoid any misperceptions of or suspicions towards peer review.

Equally, if not more importantly, considerations of diversity would help to generate a team of reviewers who were as much as possible independent, balanced, and objective. These factors contribute to ensuring the review process is credible, which in turn can legitimize the process and any recommendations that flow from it. Based on the OECD experience, Pagani has stated that “There is a strong linkage between the credibility of the process and its capacity of influence. To assure this credibility, the approach that the examiners—with the help of the Secretariat—take in the review must be objective, fair and consistent”.<sup>193</sup> Clear guidelines for the peer-review process could go some way towards ensuring objectivity and consistency as could the presentation of results to the broader community by peer-review team members in some form of an accountability session, something that could hone the thoughts and conclusions of the team.

## **BASELINE OF COUNTRY INFORMATION**

The development of any peer-review mechanism will require a baseline of information upon which to conduct an assessment. The breadth and depth of information required will clearly be influenced by the state party’s selection of modules for peer review, and this would define the objectives of the exercise. In circumstances where a state party selected a basic package, the principle requirements could include materials such

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192 FATE, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, para. 19.

193 *Ibid.*, para. 23.

as relevant, updated national legislation and regulations in the working language, a summary description of the purpose of measures, past case histories where available, the criminal procedures used in the prosecution of relevant acts, a description of any activities undertaken to raise awareness in the legal community or among law enforcement officers, and activities intended to improve interagency cooperation. In seeking to identify the materials required for national legislation, there would be great merit in looking at the Canadian proposal at the 2010 Meeting of States Parties entitled *National Implementation of the BTWC: Compliance Assessment: A Concept Paper*. The proposal goes into considerable depth and suggests that:

each State Party would submit to the ISU ... a detailed description of national legislation and regulations supporting the national implementation of the BTWC, including those that cover the oversight of human, animal and plant pathogens. This detailed description could include very specific section-by-section analysis of how the legislation/regulations work, the scope of the legislation/regulations ... and the penalties associated with contraventions.

In addition to the analysis of the national implementation legislation, each submitting State Party would also submit a detailed description of how the program was implemented on a national level. This could include process flow diagrams, organizational charts of the implementing program, showing clear lines of reporting, process and standard operating procedure descriptions, as well as clear indications of the inspection program, frequency of inspections and how major and minor non-compliances are handled.<sup>194</sup>

Security Council resolution 1540 could also be a useful guide in the collection and collation of all relevant documentation, although in many cases 1540 submissions will need to be checked for any updates and complemented with supporting documentation.

Should a state party opt for all modules, a much broader and more comprehensive set of materials will be required. Examples of the sorts of materials that could be useful in conducting a peer review are outlined below.

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194 Canada, *National Implementation of the BTWC: Compliance Assessment: A Concept Paper*, document BWC/MSP/2010/WP.3/Rev.1, 7 December 2010, paras. 4–5.

## EXAMPLES OF MATERIALS TO INFORM ADDITIONAL MODULES OF A BTWC PEER-REVIEW MECHANISM

### International cooperation and assistance

- Details of international funding activities of relevance to the Convention
- Transnationally funded projects
- Bibliometric analysis of academic transnational coauthorship
- Export control denials

There are a number of examples of the sorts of details that could be useful in the Seventh Review Conference background information document submitted by the ISU on *Implementation of Article X of the Convention*.<sup>195</sup> The module could perhaps benefit from third-party analysis of technology transfer mechanisms.

### Export control

- Background on biotech industry and imports/exports in country
- Up-to-date legislation and regulatory mechanisms in the working language
- Procedural code for export control violations
- Details of export denials
- Past history of export violations linked to the country
- Export control lists used
- Catch-all control criteria if available
- Licensing procedures
- Evidence of industry outreach and awareness-raising
- Mechanisms to deal with intangible controls

A better understanding of how export controls work in practice could benefit from interviews with customs officials and export control officers as well as observation of implementation of measures in practice.

<sup>195</sup> See ISU, *Implementation of Article X of the Convention*, document BWC/CONF.VII/INF.8, 23 November 2011.

### **Laboratory biosecurity and biosafety**

- Details on facility or facilities purpose, staffing levels, containment facility size
- Safety/security incident report or equivalent
- Details on personnel reliability measures
- Outline of physical security
- Details on measures in place to build information technology security
- Details on measures for material control and accountability
- Details on measures for material transfer security
- Details on programme management

As noted above, building an understanding of biosecurity and biosafety measures could benefit from access to staff for interviews and on-site visits to observe mechanisms in practice.

### **Outreach, codes, education, and engagement**

- Summary of government initiatives in the field of outreach, codes, education, and engagement
- Description of initiatives undertaken by the Academy of Science or equivalent
- Relevant obligations in funding criteria
- Law enforcement outreach initiatives

As noted above this module could benefit from some form of stakeholder survey to more accurately capture the extent of outreach, codes, education, and engagement related activities.

### **Disease outbreak detection and response capacity**

- Description of disease detection and reporting process
- Description of response plans in place
- National epidemic disease intelligence
- Details of education or training programme for first responders

There is likely to be a wealth of other information that could be derived from national interactions with International Health Regulations (IHR) and there could be some benefit from engaging with IHR focal points.

### Oversight mechanisms

- Guidelines or advisory documents used in biodefence and/or high-containment laboratories
- Selected reports or minutes from oversight committee (or equivalent) discussions

In the absence of declarations, confidence-building measures (CBMs) and the various national reports on aspects of compliance with the Convention submitted for review conferences could serve as a useful means of generating a baseline of data from which to conduct a peer review. In many cases the information is likely to be readily available for those states that have been particularly active and diligent in the submission of materials. Historically, CBMs have, however, been of marginal utility because of the low participation rate and the poor quality of submissions.<sup>196</sup> “The majority of states consistently note nothing or nothing new to declare on the forms they submit, which means little information is actually exchanged in practice”.<sup>197</sup> This is a particular concern in relation to biodefence activity, as required under CBM Form A2: “in every year, since the forms were modified following the Third Review Conference in 1991, less than half of the States Parties submitting the form indicate that they have something to declare”.<sup>198</sup>

Accordingly participation in a peer-review process will require the completion of up-to-date CBM forms, but most likely a much more detailed account of national implementation will be required. For the purposes of a peer-review system it is probably not worth reviving multilateral discussion on the specifics and modalities of CBMs, but rather those states that are interested should be encouraged to provide a more detailed submission based on a provisional set of guidelines agreed by participating states. This could be revised subsequently as any process evolved.

In seeking to develop guidelines, it is notable that the APRM, the FATF mutual evaluations, the OECD DAC reviews, and the IAEA IRRS assessment

196 I. Hunger and N. Isla, “Confidence-building needs transparency: an analysis of the BTWC’s confidence-building measures”, *Disarmament Forum*, no. 3, UNIDIR, 2006, p. 27.

197 See F. Lentzos, “Reaching a tipping point: strengthening BTWC confidence-building measures”, *Disarmament Diplomacy*, no. 89, 2008.

198 Ibid.

all include some form of questionnaire for completion in the preparatory phase. In the case of the FATF the questionnaire is used to:

facilitate the preparation of a response, which can provide key information for the on-site visit and form the basis for the initial outline draft of the [Mutual Evaluation Report] to be prepared by the Secretariat. It does not ask detailed questions, but countries must set out fully how they meet each Methodology criterion.<sup>199</sup>

On the other hand, the APRM uses the questionnaire *inter alia* “to provide participating countries with a format that can serve as a checklist to determine whether the various stakeholders participating in the process have responded to their concerns”.<sup>200</sup>

Finally, there will be a need to ensure all materials are translated into one target language. The ENSREG experience highlights some of the challenges with language. As Greenpeace remarked on the nuclear operator reports that were publicized, “Many of the published operator reports are only available in the local language—in Belgium, French-speaking Wallonians are not even able to read the report on Doel and Dutch-speaking Flemish the one on Tihange”.<sup>201</sup> In this regard, it will need to be taken into account that the collection, collation, translation, and submission of materials to the reviewers will take time.

## **BASELINE CRITERIA FOR COMPLIANCE WITH AND/OR IMPLEMENTATION OF THE BTWC**

The development of any peer-review system requires a second category of data, specifically, some form of principles, criteria or standards from which to conduct an assessment. In the case of the IRRS peer reviews, IAEA standards, such as *General Safety Requirements Part 1: Governmental, Legal and Regulatory Framework for Safety*, are used as a benchmark for national regulatory policies. In the case of the FATF, national legislation is assessed in relation to the “FATF 40 + 9 Recommendations”.

199 FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 5.

200 APRM Secretariat, *Revised Country Self-Assessment Questionnaire for the African Peer Review Mechanism*, 2012, <<http://aprm-au.org/sites/default/files/Revised%20APRM%20Eng%20Questionnaire%206%20Aug%2012.pdf>>.

201 J. Haverkamp, *Can the Stress Tests Be Saved from Greenwash?*, Greenpeace, 2012, p. 2, <[www.ensreg.eu/sites/default/files/13-Greenpeace-Haverkamp-paper.pdf](http://www.ensreg.eu/sites/default/files/13-Greenpeace-Haverkamp-paper.pdf)>.

In the case of the BTWC there is no clear single criterion upon which to benchmark success, nor is there likely to be much scope for a one-size-fits-all standard that would satisfy the vast differences in resources, cultures, and contexts of the BTWC states parties. As the French working paper states, “it would be impossible to apply a fully standardized, comprehensive system to all the States involved”.<sup>202</sup> One approach could be to look to the Chemical Weapons Convention and seek to develop a framework along the lines of the process that resulted in the agreement around “key legislative measures”. An alternative could be look to the IAEA model in which a series of technical meetings on specific issues culminates in the development of a series of safety or security standards. There is merit to both approaches, although the recent difficulties in achieving agreement on small passages of consensus text in the final reports of meetings of state parties suggests that both approaches are likely to be difficult.

Moreover, developing criteria is probably unnecessary as there is a wealth of information already available to states parties that could be applied to the purpose of gauging peer reviews. Outside the BTWC there are a number of international standards. In terms of biosecurity and biosafety, for example, the European Committee for Standardisation Workshop Agreement (CWA) 15793 “Laboratory Biorisk Management Standard” could be developed to serve as a basis for assessment. Alternatively the 1540 Committee has developed national reporting matrices that contain a number of activities for which national legislation is required. This serves “as a reference tool to examine the status of implementation of Security Council Resolution 1540”,<sup>203</sup> and these cover a number of important areas including accounting for, securing, and physically protecting weapon-related materials, border security, and export controls.

Of greater relevance is that over the course of the last decade the BTWC forum has produced a plethora of materials including “common understandings” agreed by consensus, chairpersons’ synthesis reports and a pool of working papers produced by states parties. In fact, one of the major advantages of the extensive discussions on national implementation during the first two intersessional processes (particularly through meetings

202 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011, para. 9.

203 See “The 1540 matrix”, <[www.un.org/en/sc/1540/national-implementation/matrix.shtml](http://www.un.org/en/sc/1540/national-implementation/matrix.shtml)>.



in 2003, 2007, and 2008) is that states parties to the BTWC already have a clearer idea of what is required in terms of national implementation and compliance under the Convention. In this sense it is the process of combining and refining materials to develop some form of guide. As the French working paper remarked, “The results achieved during the last intersessional process still need to be consolidated and discussed further, but they already form a solid basis for consensus building regarding implementation procedures”.<sup>204</sup>

While the development of assessment criteria does therefore not require starting *de novo*, consideration would need to be given to both how an evaluation would be conducted and how any system could provide sufficient scalability and flexibility in the expectations placed upon states parties. What is expected in terms of national implementation of the BTWC in the United States differs considerably from what is expected in Tuvalu, for example. It was noted at a recent Chatham House meeting:

All leading countries now have effective counter-terrorism legislation in place to control such activities. In the UK, this was provided in the Anti-terrorism, Crime and Security Act 2001. Legislation often promotes the use of highly secure physical containment of biological threat agents—new buildings, new high-tech security systems and personnel training. However, these are associated with high costs. It is highly unlikely that developing nations will possess the necessary resources, and many have poor health infrastructure and regulatory capacity.<sup>205</sup>

Scalable and flexible criteria for reviewers to gauge success is to some degree applied in a number of the peer-review models outlined above. In the FATF model the guidance is clear that “Assessors must be cognisant that different countries may adopt different approaches to meeting the FATF standards, and so need to be open and flexible, and seek to avoid narrow comparisons with their own national solutions”.<sup>206</sup> Whereas, in the context of the IRRS:

204 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP.28, 13 December 2011, para. 3.

205 Chatham House, *Meeting Summary—Safe and Secure Biomaterials: Matching Resources to Reality*, 2012, p. 3.

206 FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 7.

The IRRS process recognizes that organizational structure and regulatory processes vary from country to country depending on national legal and administrative systems, the size and structure of the nuclear and radiation protection programme, financial resources available to the regulatory body, social customs and cultural traditions. The IRRS has been constructed to allow for all such variations within a single integrated review service.

... It is performance-oriented in that it accepts different approaches to the organization and practices of a regulatory framework and regulatory body that contribute to a strong national nuclear and radiation safety regime.<sup>207</sup>

Thinking through how expectations can be developed on a sliding scale will be important. It may be more constructive to steer a BTWC peer-review system away from a checklist approach that ticks the box indicating whether states have x and y in place and perhaps more towards some form of performance-oriented evaluation that elicits information based on the question “how do you do this?”.

### INCENTIVES TO PARTICIPATE

Perhaps of greatest importance in building a peer-review mechanism for the BTWC would be some form of incentives to participate. Certainly in the context of the APRM process incentives were highlighted in one civil society commentary:

The truth is that a large number of countries got into Nepal and APRM because there was a promise of support and resources, and the APRM stood as a very good process to improve governance, and at the end of that process, there was a promise of resources. ... What the implication might be, that those countries that have not yet gone into the APRM, now realising that those that have gone into it and might not be benefiting, might, in fact, decide for their own sake, but prompted by this reality, to shy away from the APRM.<sup>208</sup>

Participation is likely to be predicated on either some form of compelling requirement to engage or because participation is somehow advantageous. It is unlikely that any peer-review system could—or indeed should—be

207 See “The IRRS process”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>.

208 South African Institute of International Affairs, *APRM Lessons Learned: Report on the SAIIA Conference For Civil Society, Practitioners and Researchers*, 2006, p. 30, <<http://saiia.org.za/images/upload/APRM%20Lessons%20Learnt.pdf>>.

made legally binding as this runs counter to the “soft law” character of a peer-review mechanism. It does however mean that there will be limits to any hope of a compelling requirement for participation. Nor is it likely that the reward of prestige or being certified as “compliant” with the obligations of the BTWC would be sufficient compensation for involvement; rather, it is likely to require something more substantial.

It is interesting to look at the drivers of organizational-level conformity with standards such as the CWA 15793 Laboratory Biorisk Management Standard. Burns and De Kesel are worth quoting at length:

The most obvious benefit for organisations implementing CWA 15793 include improved biosafety and biosecurity performance ensuring protection for employees and the wider community, as well as preventing loss, theft, and misuse of biological materials with dual use potential. Compliance with the standard furthermore avoids direct financial costs associated with business interruption, ensures conformity with legal requirements and helps to avert penalties or litigation. An additional, yet significant benefit concerns the preservation of an organisation’s reputation.

An organisation that obtained formal certification as meeting the requirements of the CWA may be able to negotiate lower insurance premiums and reduce the number of interventions by regulators.<sup>209</sup>

Many of these points can be transposed from the local or organizational level to the national level. Certainly, improved biosafety and biosecurity performance can improve protection for citizens as well as prevent loss, theft, and misuse of biological materials.

However, there could be two key advantages to participation. The first and most obvious incentive to participate in such a system would be guaranteed access to the resources and support needed to resolve any technical problems or gaps identified in implementation of the BTWC. There are a number of mechanisms with which a peer-review system could be linked to deliver the necessary support to rectify weaknesses identified. It is worth recalling here that the Seventh Review Conference agreed to “Establish a database system to facilitate requests for and offers

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209 G. Burns and T. De Kesel, “Can biorisk management standards contribute to non-proliferation of biological weapons?”, in J.P. Zanders (ed.), *Setting a Standard for Stakeholdership: Industry Contribution to a Strengthened Biological and Toxin Weapons Convention*, Egmont Paper 52, Egmont Institute, 2011, p. 27.

of exchange of assistance and cooperation among States Parties". Under this system:

States Parties are invited, individually or together with other states or international organizations, to submit on a voluntary basis to the Implementation Support Unit any requirements, needs or offers for assistance, including in terms of equipment, materials and scientific and technological information regarding the use of biological and toxin agents for peaceful purposes. The ISU will establish and administer a database, open to all States Parties, where these requests and offers will be stored.

States Parties may use the database to match offers with requests for assistance and then make their own further arrangements.<sup>210</sup>

Such an approach may thus facilitate the provision of assistance where required and may encourage interest from developing countries committed to building capacity in, *inter alia*, biosafety, biosecurity, public health response, or law enforcement capabilities. Alternatively it is possible that support for implementing recommendations from a peer-review process could be acquired through the EU CBRN Centres of Excellence. Either way it will be important to ensure that in circumstances where states are recognized as facing difficulties and subject to criticism in a peer-review process, they are provided with the requisite attention and support needed to resolve the problems identified. While such an approach may appear logical, it could be vulnerable to political misperceptions and it would be important to make clear from the very beginning that a peer-review process was not intended as a gateway to the provision of assistance and participation in international cooperation for peaceful purposes, but rather a means of opening channels of assistance and stimulating the provision of assistance and cooperation in the implementation of the obligations under the Convention.

For those states that place high priority on the prevention of biological terrorism and warfare, a second incentive would be to have their implementing mechanisms subject to an expert-level peer review. Such a review could identify weaknesses to be rectified as well as showcase

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210 Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document of the Seventh Review Conference*, document BWC/CONF.VII/7, 13 January 2012, paras. 17–19.

robust practices. Both are important in circumstances where bioterrorism is deemed a high priority, the former as it would strengthen the measures in place to prevent bioterrorism, the latter as it could dissuade terrorists.

### CREDIBLE FOLLOW-UP PROCESSES

Related to the issue of incentives is establishing a credible follow-up process that, in instances where states were falling behind expectations, “graduated peer pressure”<sup>211</sup> could be applied. Under such a mechanism, those participating states with major deficiencies would be encouraged to report back to the ISU or a subsequent meeting of states parties after a certain period of time and provide an account of whether the necessary changes had been made to rectify weaknesses identified and implement the recommendations contained within the peer-review report. In cases where reviewed states failed to address deficiencies, the review team could consider whether further assistance was needed, due to a genuine lack of resources necessary to comply, or whether enhanced pressure would be required. Drawing on the FATF follow-up process, a number of incremental steps could be applied, ranging from a letter, a high-level mission to highlight certain issues, or even a formal statement to the effect that the participating state is insufficiently in compliance with the obligations of the BTWC.

### BUILDING POLITICAL SUPPORT

Perhaps the most important, yet the most difficult ingredient in building a peer-review process will be the generation of necessary political support to move things forward. While the traditional multilaterally negotiated “all-or-nothing consensus-based approach” to agreement in the BTWC may be favoured by some states, it would be both unnecessary and unwise. A much more efficient and effective approach—at least in the first instance—would be to begin by seeking support from an interested collective of states parties willing to commit to a pilot process and volunteer themselves to be peer reviewed. As much has been suggested both in the French working paper and the work of Lennane. The former suggested that one approach to the peer-review model:

211 K.L. Gardner, “Fighting terrorism the FATF way”, *Global Governance*, vol. 13, no. 3, 2007, p. 333.

would be for the mechanism to apply to all States parties. At first it could, however, be introduced for a smaller group of interested States. States would have an incentive to participate, since undergoing an assessment would bolster confidence and create a more conducive environment for international cooperation.<sup>212</sup>

Whereas the latter suggested a “bottom-up” approach:

developing and implementing individual components on a small scale, refining and improving them in operation, gradually expanding participation and scope, and then—once everyone knows what is involved and is confident the measures work in practice—perhaps bringing them together into a legally binding instrument.

... there is nothing to stop a group of interested and motivated States Parties going further and implementing an expanded CBM or national declaration system among themselves. Similarly, a programme of on-site visits to biodefence facilities could start as soon as interested States Parties decide and hash out some basic procedures.<sup>213</sup>

The group could then develop a detailed methodology, begin a pilot process to test the feasibility of a peer-review process, and then report back to the states parties.

A collective of the willing would benefit from geographical diversity for two key reasons. First, geographical diversity will avoid the situation wherein a small group of like-minded Western states do more of the same things and go through the process of looking at each other's programmes for compliance. Second, there would be much to gain from looking at and learning how developing countries have created innovative mechanisms to implement aspects of the Convention with more limited resources than developed countries.

There could be interest in a peer-review process from a number of states parties. Such a process would meet the needs identified in their national statements in the BTWC forum, as outlined below.

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212 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International Cooperation*, document BWC/CONF.VII/WP28, 13 December 2011, para. 7.

213 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 49.

## EXAMPLES OF OBJECTIVES THAT COULD BE ACHIEVED THROUGH A PEER-REVIEW PROCESS

### Canada

At present, there is no established procedure for asking questions or seeking clarification about a State Party's CBM submission, other than through bilateral channels as per Article V. As submissions cannot build confidence if information is misunderstood or unclear, *Canada proposes that States that have questions or comments about another country's submission have the option to submit requests for clarification to the BTWC's Implementation Support Unit (ISU), which would in turn engage with the relevant country to provide a response. This process would encourage a constructive and productive exchange on CBM submissions and provide a simple and accessible mechanism for all States Parties.*<sup>214</sup>

### Australia, Japan, and New Zealand

Having considered what constitutes compliance with the [BTWC], there would be value in the working group undertaking a conceptual discussion about how States Parties can better demonstrate their compliance with the [BTWC] and thereby enhance assurance for other States Parties. In this regard, the Working Group could consider:

(a) whether there is a role for CBMs or declarations in demonstrating compliance, and if so, whether additional information to that which is already requested in the current CBMs would enhance assurance of compliance;

(b) whether the consultation and cooperation mechanisms under Article V require further development, including, for example, consideration of mutually agreed visits to sites of compliance concern ...<sup>215</sup>

### European Union

*State parties should be able to demonstrate compliance by means of information exchanges and enhanced transparency about their implementation activities and intentions towards compliance. This*

214 Canada, *Strengthening the Existing Confidence-Building Measure Submission and Review Process*, 2011, item V, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_WP\\_Canada\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_WP_Canada_E.pdf)> (emphasis added).

215 Australia, Japan, and New Zealand, *Proposal for a Working Group to Address Compliance Issues*, 2011, para. 6, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_WP\\_Australia-Japan-NZ1\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_WP_Australia-Japan-NZ1_E.pdf)>.

can be achieved by means of declarations, consultations and on-site activities, representing increasing levels of transparency and scrutiny, but also by information exchange and review during the intersessional process. While recognising that there is currently no consensus on the issue of verification, which remains a central element of the complete and effective disarmament and non-proliferation regime, we are willing to work towards identifying options that could achieve similar goals.<sup>216</sup>

## United States of America

[W]e need to bolster international confidence that all countries are living up to our obligations under the Convention. It is not possible, in our opinion, to create a verification regime that will achieve this goal. But we must take other steps. To begin with, we should revise the Convention's annual reporting systems to ensure that each party is answering the right questions, such as what we are each all doing to guard against the misuse of biological materials.

*Countries should also take their own measures to demonstrate transparency. Under our new Bio-Transparency and Openness Initiative, we will host an international forum on health and security to exchange views on biological threats and discuss the evolution of U.S. bioresearch programs. We will underscore that commitment by inviting a few state parties to the Convention to tour a U.S. biodefense facility next year, as Ambassador van den Ijssel and the UN 1540 Committee did this past summer. And we will promote dialogue through exchanges among scientists from the United States and elsewhere. In short, we are ... meeting our obligation to the full letter and spirit of the treaty, and we wish to work with other nations to do so as well.*<sup>217</sup>

## China

The best way to promote the effectiveness of the Convention is to conclude, through multilateral negotiation, a protocol to the Convention that includes a monitoring mechanism and that comprehensively enhances its effectiveness. *Prior to concluding such a protocol, there is a real need to enhance the Convention's effectiveness by means of promoting compliance in ways that are appropriate and consistent with the interests of States Parties.* China supports the

216 European Union, *Statement on Behalf of the European Union*, 2011, para. 7, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_Statement\\_EU\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_Statement_EU_E.pdf)> (emphasis added).

217 US Department of State, *Remarks at the 7th Biological and Toxin Weapons Convention Review Conference*, document 2011/T56-17, 7 December 2011 (emphasis added).



discussion of national implementation measures in the intersession meetings, so as to promote the taking of practical steps by States Parties and further strengthen national implementation capacity-building.<sup>218</sup>

Elements of many other statements made to the various BTWC meetings held over the last couple of years would suggest that a peer-review mechanism could fulfil the requirements outlined by a number of states parties. In this sense a useful preliminary step could be to consult with capitals on past experience of peer review in other forums and, to paraphrase McLeish, determine whether the benefits they enjoy as a participant—and the information it provides—outweigh any negative obligations and costs.<sup>219</sup>

## ADVANTAGES OF A BTWC PEER-REVIEW SYSTEM

The means whereby peer review is applied around the globe in other issue areas suggest the process could present a number of advantages to states parties in the BTWC.

### IMPROVED TRANSPARENCY AND CONFIDENCE IN THE BTWC

The peer-review process would considerably improve the existing levels of transparency in the BTWC not just through the provision of more information on the implementation of the Convention, but through an added-value process of “analyzing and assessing the information exchanged, and ensuring that any outstanding and emerging questions are answered”.<sup>220</sup> In turn this provides a greater level of understanding of whether states parties are in compliance with obligations under the Convention, which in turn could help build confidence. Knowing what

218 China, *Views and Proposals on Enhancing the Effectiveness of the Biological Weapons Convention*, 2011, <[www.unog.ch/80256EDD006B8954/\(httpAssets\)/B978C87507E05F9FC1257951003C9995/\\$file/China+working+paper.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/B978C87507E05F9FC1257951003C9995/$file/China+working+paper.pdf)> (emphasis added).

219 C. McLeish, “Status quo or evolution: what next for the intersessional process of the Biological and Toxin Weapons Convention?”, *Bulletin of the Atomic Scientists*, vol. 67, no. 3, 2011.

220 Norway, Switzerland, and New Zealand, *Working Paper on the Confidence Building Measures*, 2011, para. 6, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_WP\\_Norway-NewZealand-Switz\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_WP_Norway-NewZealand-Switz_E.pdf)>.

other states have in place to comply with obligations (and knowing whether what is in place has been independently evaluated and subjected to quality control) would certainly provide a clearer picture of current realities and could contribute to building confidence in the Convention.

### OPPORTUNITY FOR CLARIFICATION AND CONSULTATION

Related to the above point, although article V provides for a consultation process, its formal invocation is likely to be politically sensitive and exceptional and, in this regard, a peer-review system would fill a gap by creating an ordinary “safe space” specifically for the purposes of discussion, clarification, and consultation on issues of compliance (albeit with the positive obligations of the Convention), without invoking a “formal consultative meeting”.<sup>221</sup> Thus the inclusion of a consultation and clarification process in a peer-review mechanism could appeal to those states parties that sought an opportunity to review information submitted by states parties and, when necessary, ask follow-up questions.<sup>222</sup>

### STRUCTURED MECHANISM FOR SHARING BEST-PRACTICE (IN SITU)

A number of states have highlighted the importance of sharing best practice in the implementation of aspects of the Convention—this has been one of the benefits of the intersessional process. Yet there are limits to the utility of a primarily diplomatic audience sitting in a conference room exchanging views on what they perceived to be best practice in biosafety or national legislation. This is far removed from the realities of a courtroom in the United Kingdom, a police department in South Africa, or a laboratory in Indonesia. A much better use of resources could be to share best practices among scientists and institutions at the national level and to examine how most effectively to implement those practices in situ before bringing ideas back to the diplomatic discussions. A peer-review model that included modules requiring on-site transparency visits could be particularly useful

221 Third Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, *Final Document*, document BWC/CONF.III/23, 1991, part II, Final Declaration, art. V.

222 See European Union, *Statement on Behalf of the European Union*, 2011, para. 7, <[www.opbw.org/rev\\_cons/7rc/BWC\\_CONF.VII\\_Statement\\_EU\\_E.pdf](http://www.opbw.org/rev_cons/7rc/BWC_CONF.VII_Statement_EU_E.pdf)>.

in removing such abstraction and result in sharing information at a much more concrete, applied level.

### **MECHANISMS FOR ENHANCING NATIONAL IMPLEMENTATION**

Closely linked to the above issue of sharing best practice, a peer-review system could also serve to highlight gaps in implementation or systemic problems that may not have been otherwise considered. Reports from IRRS follow-on visits frequently indicate that the IRRS team finds that the recommendations and suggestions made have been addressed, suggesting that host states take advantage of having issues pointed out in order to improve the regulatory regime. There is no reason why the same logic could not be applied to biotechnology and the process could therefore contribute to bolstering national implementation of the Convention.

### **PROVIDES A FLEXIBLE AND “SCALABLE” ASSESSMENT MECHANISM**

A peer-review process that built on the modular approach of the IAEA and focused on a performance peer review would avoid the problem of seeking to assess implementation against some form of prescribed one-size-fits-all template. Instead it would seek to identify whether states could demonstrate having taken a number of key issues into consideration and develop a system that worked for them and in the conditions in which they operated.

### **POTENTIAL TO SUPPORT OUTREACH AND ENGAGEMENT**

As a result of the 2005 BTWC meetings, a number of subsequent workshops and discussions have highlighted the importance of concepts such as outreach, engagement, education, awareness-raising, and adoption and/or development of codes of conduct. There has been a concerted push, primarily by non-governmental organizations and academia, to build awareness of the Convention and issues related to dual use among life scientists. However, despite a number of successes, efforts in these areas remain somewhat patchy and academic surveys have been met with a limited response from those in the life sciences.

Episodes such as the recent debacle over H5N1 research<sup>223</sup> have served to highlight a gulf between the scientific and security communities and reaffirm the importance of closer engagement. The addition of a stakeholder survey, as envisaged in the more ambitious peer-review model, could enable a more systematic approach to engagement and one in which the messenger would need to be taken more seriously. It is one thing to receive an email from an enquiring doctoral student studying some unfamiliar topic; it is an entirely different thing to receive an enquiry from the government and/or an international organization. Although there could well be logistical difficulties and it would take time, at the very least a stakeholder questionnaire could provide a clearer indication of what is going on and raise awareness of the existence of the Convention and the obligations under it of the state and force national focal points to build a link between the government and other relevant actors. The addition of a small number of transparency visits to industry and academic facilities could take the Convention to industry and academia. If the process of industry transparency visits were undertaken as a peer-review process with a team that included individuals with an industry background nominated by states, the process might be something industry actors would be more accustomed to and comfortable with.

### PEER PRESSURE COULD MOTIVATE STATES TO IMPROVE IMPLEMENTATION

The addition of peer pressure and public scrutiny could motivate states parties to act upon specific issues and to report back on progress at future meetings. This could be particularly potent when a credible set of recommendations were developed and publicized in tandem with some means for providing support. However, it is recognized that making the report publicly available may not be possible in all cases.

### IT WOULD NOT REQUIRE NEW STRUCTURES

One of the advantages of a peer-review process is that there would be “No need for a new structure. The mechanism would be based on existing structures, particularly the Implementation Support Unit”.<sup>224</sup>

223 A. Kelle, “H5N1: bungling dual-use governance”, *Bulletin of the Atomic Scientists*, 29 March 2012.

224 France, *A Peer Review Mechanism for the Biological Weapons Convention: Enhancing Confidence in National Implementation and International*

Depending on how broadly states parties wished to apply a peer-review process, it would require additional resources, most logically through the augmentation of the ISU, and there would clearly be a need to identify a team of experts to conduct such reviews. Specific procedures would need to be developed, yet there are a number of precedents from the past that could be employed and procedures could be revised in light of experience as the peer-review mechanism evolved.

### IT IS NOT VERIFICATION

One of the advantages of a peer-review system is that it is sufficiently detached from the historical understanding of verification that continues to hold sway in the BTWC, thus it may be able to avoid reigniting old conflicts. Peer review in the manner envisaged in both the French vision and Lennane's article appears to be a conscious effort to disaggregate verification and look at what is "doable" in the BTWC in its current context, without requiring a multilaterally negotiated, legally binding mandate, but rather through voluntary subscription. At the same time, a peer-review system as envisaged here is nonetheless "A structured and systematic means of providing an increased level of assurance that States Parties are complying with the ... obligations of the convention" and thus corresponds to part of Lennane's understanding of verification.<sup>225</sup> Moreover, if successful, it could represent a comparatively more comfortable first step towards strengthening the Convention through a bottom-up approach.

### DISADVANTAGES OF A PEER-REVIEW PROCESS

There are also a number of disadvantages to a peer-review system that would need to be considered in order to move forward.

### REQUIRES RESOURCES AND POLITICAL WILL

Any effort to develop a peer-review system will require resources, time, energy, and political will. In terms of resources, financially it is worth

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*Cooperation*, document BWC/CONF.VII/WR.28, 13 December 2011, para. 10(e).

225 R. Lennane, "Verification for the BTWC: if not the protocol, then what?", *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 41.

recalling that the FATF annual budget for 2012 is US\$ 3,371,848,<sup>226</sup> while the APRM mechanism requires an annual contribution from member states of US\$ 100,000.<sup>227</sup> A BTWC peer-review mechanism may be able to work with considerably less, particularly if the small, flexible approach to BTWC institutional support is maintained, yet it would still require additional resources for implementation support as well as covering the costs of translations and expert reviewers' time and travel. This would need to be covered by either participating states as is the case with the APRM, or borne by the state under review (as is the practice under the IRRS model).

Perhaps more importantly a peer-review system would require a political commitment and support on the part of those states that participate. They would need to be sufficiently committed to both gather the necessary materials and then voluntarily expose themselves to scrutiny and criticisms of the like that they may not be accustomed to. The counter to this is that a number states already expose themselves to public scrutiny through the publication of CBMs and national compliance reports, so publishing an objective peer review is not a huge leap. When juxtaposed with a consideration of the context and an understanding of the practical challenges of implementation as would be envisaged in a peer-review report, this could actually leave states better placed to defend themselves against critics and to clarify any ambiguities or misplaced assumptions. Nonetheless the process would require political will and the establishment of a critical mass of diplomatic support to make the process worthwhile.

### IT IS NOT “VERIFICATION”

One of the disadvantages of a peer-review process is that there will undoubtedly be some states parties—and academics—who view the notion of voluntary peer-review as “tinkering around the edges” of what is required to strengthen the Convention. Certainly some states have been unequivocal in their views on what is necessary, and intermediate measures are unlikely to be acceptable to all states. For example, as the NAM stated at the 2012 Meeting of Experts, the “only sustainable method of strengthening the Convention is through multilateral negotiations aimed at concluding a non-discriminatory, legally binding agreement, dealing

226 FATF, *Annual Report 2011–2012*, 2012, p. 38.

227 See “Frequently asked questions”, <<http://aprm-au.org/faq>>.

with all Articles of the Convention in a balanced and comprehensive manner”.<sup>228</sup>

A voluntary peer-review system, even one with on-site transparency visits, is not going to satisfy those that remain staunchly committed to a “protocol-or-nothing” approach to strengthening the BTWC; nothing short of the unlikely resurrection of the work of the AHG as a whole is likely to be acceptable. However the fact that verification failed to materialize a decade ago should not impede other efforts to look at compliance. The BTWC cannot and should not wait until changes in the geostrategic context usher in a suitably harmonious era of peace and stability. States that are committed to exploring new and innovative ways to strengthen the Convention should be able to do what they can now.

### A BTWC PEER-REVIEW MECHANISM: MOVING FORWARD

In *Disarmament Forum* it was suggested that, rather than pursue a multilaterally negotiated, legally binding approach to peer review, states parties would be better off to pursue a bottom-up approach, “developing and implementing individual components on a small scale, refining and improving them in operation, gradually expanding participation and scope”.<sup>229</sup> The following is a series of steps that form one possible approach to developing a BTWC peer-review mechanism, beginning with a period of domestic information-gathering on the use of peer review in other areas, then proceeding through a two-phase pilot test process undertaken by a committed collective of states parties, and concluding with an attempt to expand participation and scope in time for the Preparatory Committee of the Eighth Review Conference.

228 Cuba (on the behalf of the NAM), *Opening Statement*, 16 July 2012, <[www.unog.ch/80256EDD006B8954/\(httpAssets\)/8F2B10F714B7FD38C1257A3D00513BF2/\\$file/BWC\\_MSP\\_120716\\_NAM\\_CUBA\\_AM.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/8F2B10F714B7FD38C1257A3D00513BF2/$file/BWC_MSP_120716_NAM_CUBA_AM.pdf)>.

229 R. Lennane, “Verification for the BTWC: if not the protocol, then what?”, *Disarmament Forum*, no. 1, UNIDIR, 2011, p. 49.

## STEPS FOR BUILDING A PEER-REVIEW PROCESS

### **Step 1—Preparatory work (3–5 months, contemporaneous with step 2)**

Should states parties be keen to pursue the idea of a BTWC peer-review mechanism, or even curious about the utility of such a concept, one of the most sensible first steps could be to consult domestically with counterparts in, and records from, other national entities, such as nuclear safety authorities (IRRS) or finance ministries (FATF), that have direct experience of participating in a peer-review process. Many BTWC states parties will have experience in some form of peer-review process and accounts of such an experience are likely to be useful in evaluating whether the costs outweigh the benefits in each country-specific context. They could also provide insights into the explicit “do” and “don’t” of a peer-review mechanism that could usefully be brought to the fore in step 2. If there are signs of interest among states parties there could be benefits to further research into the experiences of the OECD, the FATF, and the IAEA IRRS with peer-review processes at this stage to gain first-hand accounts of potential difficulties. This process should be relatively easily achieved within a few months and could occur in parallel with step two.

### **Step 2—Form a collective of the committed (6 months)**

For those states parties that were particularly keen and/or have enjoyed sufficiently positive experiences with peer-review mechanisms in other issues areas to want to proceed with a BTWC mechanism, the next step would be to form a small group of states parties that were sufficiently committed to subject themselves to the scrutiny of some form of pilot process. In order to gain credibility among BTWC states parties and to mitigate any potential risk of suspicion or deliberate misrepresentation of the concept on the part of states parties, there would be significant advantages to including states parties from all key regional groups. However, in this early stage the collective should perhaps be kept to under a dozen to ensure the necessary flexibility and adaptability to be effective—although additional states could be given observer status. Practically, it would be greatly beneficial to form a small group of individuals from different backgrounds who could take the lead in this initiative and thus serve as both the champions and contact points for expressions of interest in such a process. In terms of timing, step 2 could begin with an invitation for expressions of interest by a group of states



parties at an intersessional meeting and conclude with a joint statement by the collective at a subsequent BTWC meeting.

### **Step 3—Develop a plan (12 months)**

The next step would be to work within the collective to develop a provisional agreement on the details related to the process and scheduling of the peer-review mechanism, building on experiences and lessons learned from mechanisms in other areas. For financial reasons, much of the early discussion on details could be conducted through an electronic exchange of information and ideas, building on the experience with the electronic platform developed for discussion on CBMs,<sup>230</sup> with informal meetings of the collective piggybacking on—and perhaps reporting to—scheduled meetings of the BTWC intersessional process. Step 3 would also need to begin a process of decision-making in relation to several of the key prerequisites of a BTWC peer-review mechanism, such as identifying suitable peers, country information, criteria for assessment, and potential follow-up mechanisms for a pilot study. There could be scope for conducting further research into these areas in order to, for example, develop options for the criteria of assessment (particularly in relation to modules that remain more politically sensitive, such as international cooperation and assistance), or some form of questionnaire process designed to elicit the relevant information. A period of 12 months with two meetings of the collective linked to scheduled intersessional meetings could allow sufficient time to enable a thorough consideration of these issues without allowing attention to drift.

### **Step 4—Conduct a first-phase pilot test (10 months)**

The fourth step would build upon the discussion around processes and scheduling undertaken in the third step and conduct a small number of first-phase pilot tests of a BTWC peer-review mechanism using a small number of states that were willing to volunteer themselves. This could be developed and adapted from the model outlined above. It may also be useful to invite other states to serve as observers of the review process and both observers and participants could be encouraged to record not just substantive observations on the peer-review process but also procedural strengths and weaknesses that could be particularly important

230 A useful example is the electronic platform used for discussion on enhancing the BTWC CBMs, which was developed by the Geneva Forum; see <[www.genevaforum.ch/gf/index.php?id=114](http://www.genevaforum.ch/gf/index.php?id=114)>.

in optimizing any future activities in step 5. This could be complemented by additional interviews of those directly participating in the pilot process to build an understanding of the difficulties encountered in practice. A factual report of the observations and other data collected could be developed and aspects of the report presented to a subsequent BTWC meeting to maintain a link between the activities of the collective and those of the states parties during the intersessional process.

### **Step 5—Reporting back and refining (6 months)**

Drawing from the reports of the pilot tests and any additional information available from participants and observers, it would be useful to compile a list of lessons learned and undergo a process of optimizing the peer-review mechanisms and rectifying problems encountered in the first-phase pilot study. This could result in the development and refinement of more detailed guidelines for a second-phase pilot test. The experience with first-phase pilot tests, including the results of any follow-up responses, and the plan for second-phase pilot tests, could be reported to states parties at a meeting of experts or a meeting of states parties.

### **Step 6—Second-phase pilot test (10 months)**

Building on the lessons learned in the first phase and provisional guidelines developed in step 5, the collective could conduct a second-phase pilot test with the intention of further optimizing the process and procedures. Such a process could be instilled with an additional layer of scrutiny through the inclusion of manufactured complications that a review team would need to adapt and respond to. As with the first-phase pilot test, it would be useful to record observations of the substance and process in order to improve the process in the future.

### **Step 7—Expansion of participation**

Towards the end of the sixth step, the collective could provide a factual report of the experiences in the pilot process (both positive and negative). In the event that an expression of interest in pursuing peer review could be achieved relatively soon it is possible that a provisional report of the two-phase pilot process could be presented at the Preparatory Committee in 2016 along with an invitation to states parties to join the collective and gradually expand participation and scope through an invitation to other states parties at the Preparatory Committee for the Eighth Review Conference to agree to peer-review evaluations.

The undertaking of a two-phase pilot test of a peer-review mechanism by a collective of states parties is unlikely to result in a perfect peer-review mechanism, but it would surely provide participants with a more robust mechanism and ensure that much of what emerges from the inevitable “muddling through”<sup>231</sup> that characterizes the early evolution of policy processes is given sufficient attention to stand up to much greater scrutiny in the event that a peer-review process gathers support from a larger contingent of states parties.

## CONCLUSIONS

It has been remarked that the “multilateral disarmament and arms control community of practice is necessarily a cautious and conservative one”.<sup>232</sup> Unfortunately, many of the areas addressed by this community of practice are evolving in a manner that is considerably less circumspect. This is certainly the case in biotechnology, where there have been significant changes in both the *capacity* and *geography* of research and development over the last decade that have occurred in parallel with a monumental shift in the perceptions of threats and actors in international security. Such changes in both science and security make the nurturing of the Convention even more important in the early years of the twenty-first century.

While it would be remiss not to acknowledge the many benefits of a decade of intersessional meetings, the Seventh Review Conference failed to meet the expectations of a number of states parties and it is questionable whether another round of “discussion and promotion of common understandings” is sufficient to tend to the health of the BTWC regime and sustain high-level interest in biological disarmament. This is not to suggest that states parties should seek a return to the protocol negotiations. Although developing a verification mechanism of the Convention should remain a long-term objective of states parties, the BTWC has moved on from the approach of the 1990s, and there is little value in seeking a return to work on the composite text, not least as it would not realistically be possible to pick up where states parties left off more than a decade ago. Moreover, if the BTWC and the prohibition on the hostile exploitation

231 C.E. Lindblom, “The science of ‘muddling through’”, *Public Administration Review*, vol. 19, no. 2, 1959.

232 J. Borrie and V.M. Randin (eds.), *Alternative Approaches in Multilateral Decision Making*, UNIDIR, 2005, p. 111.

of the life sciences it underpins is worth preserving—and the continued participation of states parties in the Convention suggests it is—then discussion on strengthening the Convention warrants more than a routine dialogue around a collapsed negotiation from over a decade ago.

In this regard, one logical step could be to disaggregate verification and look at what could feasibly and usefully be achieved without straying into areas that remain politically divisive. There are potentially a number of options that could be pursued through a process of disaggregating verification. One approach that could be a useful first step towards nurturing the Convention back to health could be to consider a systematic review of a state party's implementation of the BTWC by other states parties, with the ultimate goal of helping the reviewed state party to adopt best practice and comply with the obligations of the BTWC<sup>233</sup>—in short, a peer-review process.

Although at first glance such a concept may appear anomalous to the world of biological disarmament diplomacy, peer review is a well-established tool employed by several international organizations. Moreover, many states parties already subject themselves to peer review in areas such as governance in the African Union, nuclear regulation across the IAEA, and financial regulation through the FATF. They do so, presumably, because the process:

- builds transparency and confidence in the actions of others in fulfilling agreed principles;
- serves as a quality-control mechanism that identifies and responds to deficiencies;
- provides a flexible means of sharing lessons learned and best practice, thus improving implementation of both the individual states and the collective; and
- applies peer pressure to other states to be in compliance with agreed principles.

This raises the question: if peer review is good enough for members of regional and international organizations such as the African Union, the European Union, the Organisation for Economic Co-operation and Development, and the International Atomic Energy Agency, then

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233 See F. Pagani, *Peer Review: A Tool for Co-operation and Change—An Analysis of an OECD Working Method*, OECD document SG/LEG(2002)1, 11 September 2002.

could not a peer-review mechanism be used to build confidence in the implementation of the Biological Weapons Convention and begin the first of many incremental steps towards the shared objective of strengthening the BTWC?

Among a community that is inherently “cautious and conservative” the idea of a peer review is unlikely to gain traction in all circles. New and novel activities by their very nature take time to become accepted practices—there are, after all, few “novel norms”. Moreover, the politics of biological disarmament necessitate that support from some states parties is unlikely to be readily present for anything that is less than a multilaterally negotiated, legally binding verification protocol. However, this view is not shared by all states parties and, rather than waiting for a period of global peace that is sufficiently harmonious to allow a multilaterally negotiated, legally binding agreement on a verification protocol to be achieved, those states parties that wish to act collectively could use a peer-review mechanism to build the foundations for a compliance regime on the basis of what can more readily be achieved now.

## ANNEX

### SUMMARY OF SELECTED PEER-REVIEW MECHANISMS

#### OBJECTIVES

##### **African Peer Review Mechanism (APRM)**

“[T]o foster the adoption of policies, standards and practices that lead to political stability, high economic growth, sustainable development and accelerated subregional and continental economic integration through experience sharing and reinforcement of successful and best practices, including identifying deficiencies and assessment of requirements for capacity building”.<sup>1</sup>

##### **Financial Action Task Force (FATF) peer-review mechanism**

To assess “whether the necessary laws, regulations or other measures required under the essential criteria are in force and effect, that there has been a full and proper implementation of all the necessary measures, and that the AML/CFT system as implemented is effective”.<sup>2</sup>

##### **OECD Development Assistance Committee (DAC) peer review**

“To monitor DAC Members’ development co-operation policies and programmes, and assess their effectiveness, inputs, outputs and results against the goals and policies agreed in the DAC as well as nationally established objectives.

To assist in improving individual and collective aid performance in both qualitative and quantitative terms.

To provide comparative reporting and credible analysis for wider publics in OECD countries and the international community.

To identify best practices, share experience, and foster co-ordination”.<sup>3</sup>

1 “About APRM”, <<http://aprm-au.org/about-aprm>>.

2 FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 3.

3 “DAC information note on the peer review process for peer review participants”, <[www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm](http://www.oecd.org/site/peerreview/dacinformationnoteonthepeerreviewprocessforpeerreviewparticipants.htm)>.

**IAEA Integrated Regulatory Review Service (IRRS)**

“[T]o strengthen and enhance the effectiveness of the national regulatory infrastructure of States for nuclear, radiation, radioactive waste and transport safety and security of radioactive sources whilst recognizing the ultimate responsibility of each State to ensure safety in the above areas”.<sup>4</sup>

**European Nuclear Safety Regulators Group (ENSREG) stress tests**

“[T]o assess the compliance of the stress tests with the ENSREG specifications, to check that no important problem has been overlooked and to identify strong features, weaknesses and relevant proposals to increase plant robustness in light of the preliminary lessons learned from the Fukushima disaster”.<sup>5</sup>

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4 “Integrated Regulatory Review Service”, <[www-ns.iaea.org/reviews/rs-reviews.asp](http://www-ns.iaea.org/reviews/rs-reviews.asp)>.

5 ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i–2012 04 25, 2012, p. 2.

## STRUCTURE

### **African Peer Review Mechanism (APRM)**

The APRM is comprised of the Forum, which is a Committee of Participating Heads of State and Government of the member states of the African Union that have voluntarily acceded to the APRM; the Panel of Eminent Persons, which exercises oversight of the peer-review process with a view to ensuring independence, professionalism, and credibility; and the Secretariat, which provides technical, coordinating, and administrative support services to the APRM.<sup>6</sup>

### **Financial Action Task Force (FATF) peer-review mechanism**

The FATF Plenary is the decision-making body, however this functions through the FATF President and the FATF Secretariat, which supports the task force undertaking assessments in country and supports the President.

### **OECD Development Assistance Committee (DAC) peer review**

The DAC Secretariat, in consultation with the DAC, designates two of its members as “examiners” for each review. Examiners are supported by the DAC Secretariat.

### **IAEA Integrated Regulatory Review Service (IRRS)**

Reviews are conducted by expert peer teams, consisting of between 15 and 25 experts<sup>7</sup> who are selected by the IAEA from other IAEA member states.<sup>8</sup> The teams include the IRRS team leader, the IRRS deputy team leader, the IAEA team coordinator, the IAEA deputy team coordinator, the IAEA review team coordinator(s), an expert reviewer, a liaison officer from the regulatory body of the state under review, and various counterparts from the regulatory body.

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6 “Management structure”, <<http://aprm-au.org/management-structure>>.

7 See “Integrated Regulatory Review Service mission to the United States”, <[www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html](http://www.nrc.gov/public-involve/conference-symposia/irrs-mission-review.html)>.

8 See Swedish Radiation Safety Authority, *IRRS 2012: Integrated Regulatory Review Service at the Swedish Radiation Safety Authority*, 2012.



**European Nuclear Safety Regulators Group (ENSREG) stress tests**

“The peer review was managed by a Board that consisted of seven senior regulators from EU countries and [a European Commission] senior manager. Each national regulator was invited to nominate one expert for each of the three topical areas [natural hazards, loss of safety systems, and severe accident management]. Most of the experts were experienced regulators. Knowledgeable scientists or consultants designated by regulators also participated”.<sup>9</sup>

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9 ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i–2012 04 25, 2012, p. 2.

## LEGAL BASIS

### **African Peer Review Mechanism (APRM)**

The APRM is based on documents that emerged from the Sixth Summit of the Heads of State and Government Implementation Committee of the New Partnership for Africa's Development (NEPAD), including the memorandum of understanding on the APRM, which is the accession document for the APRM; Declaration on Democracy, Political, Economic and Corporate Governance; the APRM base document; APRM Organisation and Processes; Objectives, Standards, Criteria and Indicators for the APRM; and Outline of the Memorandum of Understanding on Technical Assessments and the Country Review Visit.<sup>10</sup>

### **Financial Action Task Force (FATF) peer-review mechanism**

The FATF has renewed its mandate in 2012, through the agreement of the Financial Action Task Force Mandate (2012–2020). There are no legal obligations per se but states do provide a “written commitment at the political level”.

### **OECD Development Assistance Committee (DAC) peer review**

“[T]he Committee shall:

- a) monitor, assess, report, and promote the provision of resources that support sustainable development, as specified above, by collecting and analysing data and information on [official development assistance] and other official and private flows;
- b) review development co-operation policies and practices, particularly in relation to national and internationally agreed objectives and targets, and promote mutual learning;
- c) provide analysis, guidance and good practice to assist its members and the expanded donor community”.<sup>11</sup>

10 African Union, *Guidelines for Countries to Prepare for and to Participate in the African Peer Review Mechanism (APRM)*, 2003, para. 1.

11 OECD, *DAC Mandate 2011–2015*, document DCD/DAC(2010)34/FINAL, 18 October 2010, p. 3.

### **IAEA Integrated Regulatory Review Service (IRRS)**

“Under the terms of Article III of its Statute, the International Atomic Energy Agency (IAEA) has the mandate to establish or adopt, in consultation and, where appropriate, in collaboration with competent organizations, standards of safety ... . As part of its providing for the application of safety standards, the IAEA provides Safety Review and Appraisal Services, at the request of Member States, which are directly based on its safety standards”.<sup>12</sup>

### **European Nuclear Safety Regulators Group (ENSREG) stress tests**

“The Nuclear Safety Directive requests that the EU Member States shall at least every 10 years arrange for periodic self-assessments of their national framework and competent regulatory authorities and invite an international peer review of relevant segments of their national framework and/or authorities with the aim of continuously improving nuclear safety”.<sup>13</sup>

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12 “Workshop on the Lessons Learned from Integrated Regulatory Review (IRRS) Missions”, <[www-pub.iaea.org/iaea/meetings/42169/Workshop-on-the-Lessons-Learned-from-Integrated-Regulatory-Review-IRRS-Missions](http://www-pub.iaea.org/iaea/meetings/42169/Workshop-on-the-Lessons-Learned-from-Integrated-Regulatory-Review-IRRS-Missions)>.

13 “ENSREG and the IAEA sign a memorandum of understanding for International Peer Review missions in EU member states”, <[www.ensreg.eu/node/293#link1](http://www.ensreg.eu/node/293#link1)>.

## MEMBERSHIP

### **African Peer Review Mechanism (APRM)**

As of 2011, 30 states had voluntarily participated in the APRM: Algeria, Angola, Benin, Burkina Faso, Cameroon, the Congo, Djibouti, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Liberia, Malawi, Mali, Mauritania, Mauritius, Mozambique, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, the Sudan, Togo, Uganda, the United Republic of Tanzania, and Zambia.<sup>14</sup>

### **Financial Action Task Force (FATF) peer-review mechanism**

The FATF is comprised of 34 member jurisdictions and two regional organizations (the European Union and the Gulf Cooperation Council). The jurisdictions are Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Denmark, the European Commission, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, India, Ireland, Italy, Japan, the Republic of Korea, Mexico, the Netherlands, New Zealand, Norway, Portugal, the Russian Federation, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.<sup>15</sup>

### **OECD Development Assistance Committee (DAC) peer review**

Members of the DAC are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United States, and the Commission of the European Communities.<sup>16</sup>

14 See A. Shifa, *African Peer Review Mechanism: Progress Update*, APRM Secretariat, 19 May 2011, p. 6.

15 "FATF members and observers", <[www.fatf-gafi.org/pages/aboutus/membersandobservers](http://www.fatf-gafi.org/pages/aboutus/membersandobservers)>.

16 "Members and partners", <[www.oecd.org/about/membersandpartners](http://www.oecd.org/about/membersandpartners)>.

**IAEA Integrated Regulatory Review Service (IRRS)**

There are 158 member states of the IAEA.<sup>17</sup>

**European Nuclear Safety Regulators Group (ENSREG) stress tests**

ENSREG is comprised of senior officials from the national nuclear safety, radioactive waste safety, or radiation protection regulatory authorities of the 27 member states of the European Union, and representatives of the European Commission.<sup>18</sup>

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17 “Member states of the IAEA”, <[www.iaea.org/About/Policy/MemberStates](http://www.iaea.org/About/Policy/MemberStates)>.

18 “European Nuclear Safety Regulators Group”, <[www.ensreg.eu](http://www.ensreg.eu)>.

## PROCESS

### **African Peer Review Mechanism (APRM)**

The APRM process constitutes a base review, which is the first review carried out within 18 months after a state becomes a member of the APRM, and periodic reviews that take place every two to four years.<sup>19</sup> The base review process takes 12 months and consists of five stages:

1. background research and draft plan of action;
2. country visit;
3. preparation of review team recommendations;
4. internal presentation and discussion of the recommendations; and
5. public release of the APRM report and implementation.<sup>20</sup>

### **Financial Action Task Force (FATF) peer-review mechanism**

The review process takes six to seven months. It comprises:

1. preparatory activities (scheduling, team selection, document collection, etc.);
2. on-site visits and interviews;
3. preparation and revision of draft report;
4. submission of draft report to the Expert Review Group;<sup>21</sup>
5. presentation of draft report to the Plenary for debate and adoption; and
6. publication of the report and follow-up processes.

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19 "About APRM", <<http://aprm-au.org/about-aprm>>.

20 See J. Cilliers, *Peace and Security through Good Governance—A Guide to the NEPAD African Peer Review Mechanism*, Occasional Paper 70, Institute for Security Studies, 2003.

21 FATF, *Third Round of AML/CFT Mutual Evaluations: Process and Procedures*, 2009, p. 9.

### **OECD Development Assistance Committee (DAC) peer review**

The DAC peer review comprises:

1. preparatory work by the review team and the state under review;
2. field visits and capital visit;
3. preparation of draft report;
4. meeting with reviewed state to present findings and recommendations; and
5. finalization and publication of the report, and follow-up.

### **IAEA Integrated Regulatory Review Service (IRRS)**

The IRRS process comprises:

1. self-assessment;
2. peer review on-site including observation of regulatory activities at operating nuclear power plants and interviews with staff and other organizations to help assess effectiveness of the regulatory system; and
3. follow-up peer review.

### **European Nuclear Safety Regulators Group (ENSREG) stress tests**

The ENSREG stress tests comprised:

1. assessment by and proposals for improvements from operators;
2. review of assessment by national regulators, issuing requirements as appropriate; and
3. European peer review of reports submitted by national regulators.<sup>22</sup>

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22 See ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i-2012 04 25, 2012.

## ADDITIONAL INFORMATION

### African Peer Review Mechanism (APRM)

- A member state may, for its own reasons, request a review.
- Early signs of impending political and economic crisis in a country could also be sufficient cause for a review.<sup>23</sup>
- The annual contribution from each member state is US\$ 100,000.<sup>24</sup>
- Civil society organizations are involved in all stages of the process. Country Review Missions provide the opportunity for meetings between civil society organizations and the review team.<sup>25</sup>
- “The truth is that a large number of countries got into NEPAD and the APRM because there was a promise of support and resources”.<sup>26</sup>

### Financial Action Task Force (FATF) peer-review mechanism

- “[R]igorous scrutiny through mutual evaluation, public disclosure and its associated peer pressure has contributed significantly to the development of AML/CFT regimes around the world. ... The peer pressure associated with the ongoing mutual evaluation and assessments and related public scrutiny and disclosure also has the effect of encouraging countries not to lag behind their peers”.<sup>27</sup>
- The methodology of the FATF has been characterized as “skewed towards measuring legal frameworks, in minute detail and great length”.<sup>28</sup>

### OECD Development Assistance Committee (DAC) peer review

- Consultations are held with government officials, beneficiaries, civil society representatives, and other major donors to that member under review.
- Each DAC member state is peer reviewed roughly every four years.

23 “About APRM”, <<http://aprm-au.org/about-aprm>>.

24 “Frequently asked questions”, <<http://aprm-au.org/faq>>.

25 APRM Secretariat, *2011 APRM Annual Report*, 2012, pp. 2–3.

26 South African Institute of International Affairs, *APRM Lessons Learned: Report on the SAIIA Conference For Civil Society, Practitioners and Researchers*, 2006, p. 30, <<http://saiia.org.za/images/upload/APRM%20Lessons%20Learnt.pdf>>.

27 See N. Jensen and C.-A. Png, “Implementation of the FATF 40+9 Recommendations: a perspective from developing countries”, *Journal of Money Laundering Control*, vol. 14, no. 2, 2011.

28 Global Witness, *How FATF Can Measure and Promote an Effective Anti-Money Laundering System*, 2012, p. 3.



### **IAEA Integrated Regulatory Review Service (IRRS)**

- IRRS inspection is at the request of the state.
- Response to recommendations is voluntary.
- The IRRS concept was developed by the IAEA's Department of Nuclear Safety and Security and then discussed at the Third Review Meeting of the Contracting Parties to the Convention on Nuclear Safety in 2005.<sup>29</sup>
- "The strong support expressed by senior regulators for the IAEA peer reviews of the nuclear regulatory framework and their concrete proposals for improvement will contribute significantly to the effective implementation of the IAEA Nuclear Safety Action Plan".<sup>30</sup>
- "There was a general recognition that these peer reviews provide national nuclear regulators with an objective view of their strengths and weaknesses and contribute to the continuous strengthening of nuclear safety".<sup>31</sup>

### **European Nuclear Safety Regulators Group (ENSREG) stress tests**

- ENSREG concluded that all countries had taken significant steps to improve the safety of nuclear power plants, with varying degrees of practical implementation.
- In spite of differences in national approaches and degrees of implementation, the review showed a consistency across Europe in identification of strong features, weaknesses, and possible ways to increase plant robustness in light of the preliminary lessons learned from the Fukushima disaster.<sup>32</sup>

29 See "Workshop on the Lessons Learned from Integrated Regulatory Review (IRRS) Missions", <[www-pub.iaea.org/iaeameetings/42169/Workshop-on-the-Lessons-Learned-from-Integrated-Regulatory-Review-IRRS-Missions](http://www-pub.iaea.org/iaeameetings/42169/Workshop-on-the-Lessons-Learned-from-Integrated-Regulatory-Review-IRRS-Missions)>.

30 IAEA, *International Nuclear Officials Discuss IAEA Peer Reviews of Nuclear Safety Regulations*, press release 2011/22, 28 October 2011.

31 Ibid.

32 See ENSREG, *Peer Review Report: Stress Tests Performed on European Nuclear Power Plants*, document v12i-2012 04 25, 2012, p. 3.

## ABBREVIATIONS

AHG	Ad Hoc Group
AML/CFT system	anti-money laundering/combating the financing of terrorism system
APRM	African Peer Review Mechanism
BTWC	Biological and Toxin Weapons Convention
CBMs	confidence-building measures
CSTO	Collective Security Treaty Organization
DAC	OECD Development Assistance Committee
ENSREG	European Nuclear Safety Regulators Group
ERG	FATF Expert Review Group
FATF	Financial Action Task Force
IAEA	International Atomic Energy Agency
IRRS	IAEA Integrated Regulatory Review Service
ISU	Implementation Support Unit
MER	FATF Mutual Evaluation Report
NAM	Non-Aligned Movement
NEPAD	New Partnership for Africa's Development
OECD	Organisation for Economic Co-operation and Development
OHSAS	Occupational Health and Safety Assessment Series
SAI	Standing Agenda Item